



ESTABLISHED 1848

COLMAN'S RURAL WORLD.

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

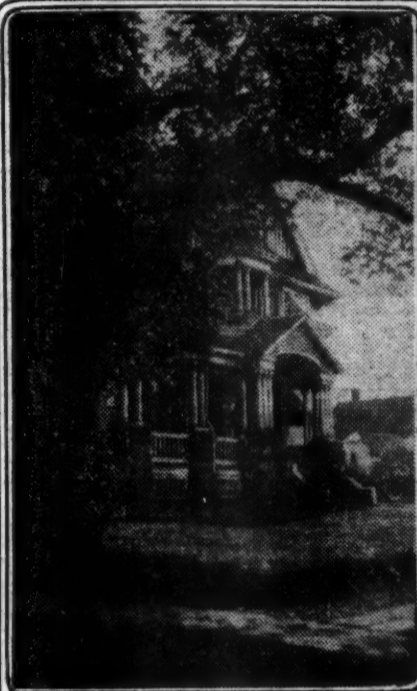
OLDEST AGRICULTURAL AND LIVE STOCK JOURNAL IN THE MISSISSIPPI VALLEY

Sixty-Seventh Year.

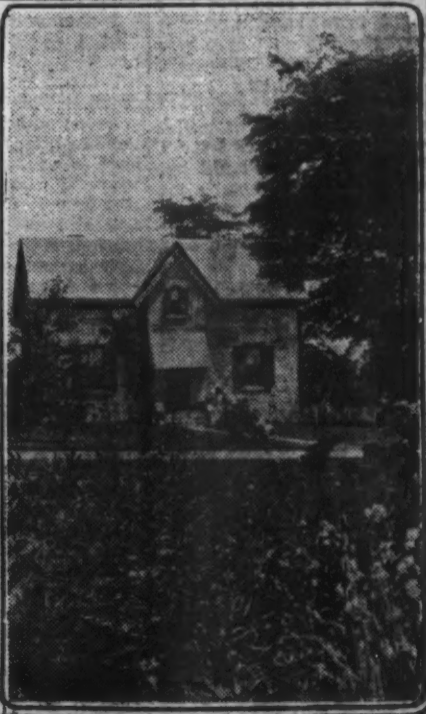
ST. LOUIS, MO., OCTOBER 22, 1914.

Volume LXVII. No. 43.

OF THE
UNIVERSITY OF ILLINOIS
24 OCT 1914



*Be it Ever so Humble
There's no Place
Like Home*



WHAT OUR READERS THINK & DO

ABOUT SCARLET FEVER.

Editor, Rural World:—As scarlet fever is prevalent in many places this fall, a word from experience here may be useful to others. Great care must be taken with the children to avoid taking cold, or getting damp, by walking in the dew, or being out in a light shower. Even the wind will cause them to take cold and that will give a great deal of trouble.

The symptoms of scarlet fever are a sore throat on one side, usually the left side, a small kernel close up under the jaw with the throat red and swollen on the inside. In a more severe case the throat will be sore on both sides. Vomiting occurs and running off at the bowels, which lasts one day. Then the rash appears and is very fine and of a bright pink color. This will hold its color from 12 to 24 hours, when it will entirely disappear. The temperature will range near 103, but may not last more than a day, although in some cases it may last longer.

After the fever lowers, the patients recover very quickly. Then is the danger time. They should be kept in the house at least 10 days, even after they appear entirely well, for other troubles may follow upon the least provocation, such as heart and kidney troubles, also rheumatism. Either one may prove dangerous, even fatal.—(Name not given), Arkansas.

NOTES FROM KENTUCKY.

Editor, Rural World:—In response to some of my Rural World friends, I am glad to know they are missing my notes. I was the same way. When we read a paper and follow up special writers we always have a yearning for them when they would fall to write regularly. A number of these dear, good friends have written me and have been wondering if I were sick or dead.

I am glad to state we are well and alright, and very busy. We have had a severe season in drouth, but the rains came a month ago and we had nice fresh pasture in consequence. The sweet clover branched out extra well. And we had another nice cutting of alfalfa. We have our silage cut but it only filled half full as the drouth made the corn crop not half what it should have been, still the men that filled the silo said ours was the nicest silage they cut this season. It now smells like a whisky barrel. The boys brought home from the old home place some nice loads of millet hay. We sowed this millet and for a time it looked like we would not get a thing from our efforts, but after those rains it came up and made a quick and wonderful growth for so short a time, and it will be a big help as horse feed.

We are beginning to feed our hogs on corn now. We fed bran and rye for a time and it gave them a good start. We have a nice batch of late corn that is just in roasting ear stage and if it will not frost for a time will make a fine lot of feed.

I have been out every morning cutting down weeds that sprung up in my garden since the rains a month ago. It is surely surprising the way the weeds do grow, and hasten seed production. I have a bunch of pigs that get all these nice weeds thrown to them. They will convert them into something better than bug harborers in the garden.

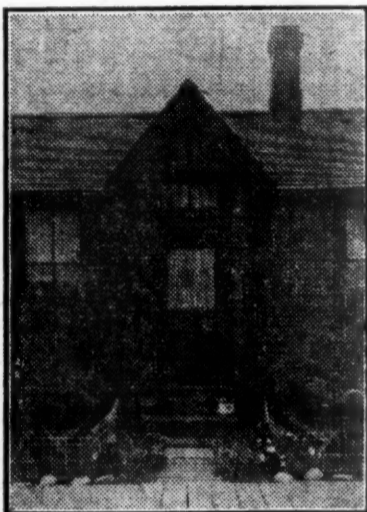
I have been tramping about quite a bit of late, looking through the pastures and after the fences. The sweet clover is the best pasture everywhere. It certainly will hold its own as well as keep the land from washing away.

I have a nice spreading crop in the strawberry patch. I am cutting out all the weeds in the strawberries, ex-

cepting the sweet clover, as I have learned from past experience that where the sweet clover grew in the strawberries there the best and most luscious berries were. The season was an awfully poor one though to get a good start for the berry plants, yet not many died. I am expecting some nice treats in the spring.

We have some roofing to do at the old home place. We will cover the barn shed with galvanized roofing and the old home place dwelling with shingles. We will dip the shingles in roof preserver. The shingles are partly hauled and the promised help will come when wanted I presume. We had the house roofed three years ago with asbestos roofing, but it never gave any satisfaction to us, so back to shingles we go.

Friends, remember us when you order sweet clover. Of course, those of you who have not got a start must surely fall in line. Better order of us and get the genuine, as really, much of the hulled seed offered is, as I have said before, only a dwarf. Prosperity and happiness to all.—Mrs. J. T. Mardis, Falmouth, Ky.



Even the Smallest of Cottage Homes Can Be Made Attractive and Beautiful.

HOUSEHOLD SUGGESTIONS.

Editor, Rural World:—Such a busy summer; few housekeepers have time to write. But here is an idea from my experience, and I'll write it while I may.

Little two-year-old daughter has very heavy, curly hair. At her age I want to keep it "bobbed" and have cut it six times, but the curls were so hard to manage beneath the scissors that I tried the following plan with success.

I shampooed her hair, dried it as best I could with a cloth, then brushed and combed it down smooth all around. It hung straight while damp. Then with a sharp pair of scissors I trimmed it with little trouble all around the edges. It was such a success that I did little five-year-old daughter's the same way. Her hair is extremely heavy and very fine and straight, but the same plan worked satisfactorily. Next day their hair looked as though they had just come from the barber's. I had to trim a few stray hairs off afterwards, but the plan was really very satisfactory, so much more so than the old way that I think I will cut their hair while damp in the future.

I have finished canning beans. I cooked them with meat, as for the table, and half an hour before canning added one level teaspoonful of salicylic acid to the quart and boiled for one-half hour longer. They keep all right. Our doctor says that the acid won't hurt us, in fact, it is good for rheumatism.—Nellie Arnold, Brownstown, Ill.

WOMAN SUFFRAGE CONFERENCE.

An unusually fine program is arranged for the Southern States Woman Suffrage Conference, to be held in Chattanooga, November 10 and 11. The speakers engaged are Mrs. O. H. P. Belmont of New York, Miss Kate M. Gordon of New Orleans, Miss Jean M. Gordon, Mrs. John B. Parker, Mrs.

Ida Porter-Boyer, all of New Orleans, and from Kentucky there will be Miss Laura Clay. These are but a few of those who will help to make the conference a brilliant one.

This conference immediately precedes the National Conference at Nashville, November 12 to 17. At Chattanooga accommodation may be secured by sending addresses to Miss Ernestine Noa, chairman, Hospitality Committee, Lookout Mountain, Tennessee.

COMING EVENTS.

Nov. 3-Nov. 13—Georgia State Fair, Macon.

Nov. 4-Nov. 11—Louisiana State Fair, Shreveport.

Nov. 9-Nov. 14—Arizona State Fair, Phoenix.

Nov. 16-Nov. 21—Arkansas State Fair, Hot Springs.

Nov. 16-Nov. 21—American Royal Live Stock Show, Kansas City, Mo.

Nov. 28-Dec. 5—International Live Stock Exposition, Chicago. Entries close Nov. 1st.

Dec. 7-Dec. 12—Pacific International Live Stock Exposition, North Portland, Ore.

Jan. 18-23, '15—National Western Stock Show, Denver, Colo.

Feb. 1-6—Corn and Clover Convention—Midwinter Fair—North Dakota Live Stock Breeders' Association, Grand Forks, N. D.

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THE BUTTERFLY.

Pray tell me why the butterfly Soars such a funny way! Why don't it take a straighter course? Now, let the children say:

The butterfly seems unconcerned, But careless not a bit; Its zig-zag course will fool some child Who tries to capture it.

ALBERT E. VASSAR.

St. Louis.

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Here's a bargain. Never before has it been possible to obtain a Multi-focal telescope with solar eyepiece attachment for less than \$8 to \$10. But because we have made special arrangements with the inventors, and pay no patent royalties, and have them made in tremendous quantities by a large manufacturer in Europe with cheap labor, we are enabled to give you this outfit, provided you will send us \$1.00 to pay for a one year, new or renewal subscription to COLMAN'S RURAL WORLD and 35 cents extra to help pay mailing and packing charges on the telescope outfit (total \$1.35). Think of it—the solar eyepiece alone is worth more than that amount in the pleasure it gives—seeing the sun spots as they appear, and inspecting solar eclipses.

The Excelsior Multi-focal Telescope has a multiplicity of uses—its pleasure is never dimmed—each day discovers some new delight. Distinguishable to the naked eye. Read signs invisible to the naked eye. Use it in cases of emergency. Take the Excelsior Multi-focal Telescope with you on pleasure and vacation trips, and you can take in all the scenery at a glance—ships miles out; mountains, encircled by vapors; bath-ers in the surf; tourists climbing up the winding paths.

Used as a microscope it is found of infinite value in discovering microbes and germs in plants and seeds, etc. The Excelsior Multi-focal Telescope is mechanically correct—brass-bound, brass safety cap to exclude dust. Powerful lenses, scientifically grounded and adjusted. Handy to carry—will go in pocket when closed, but when opened is over 3 1/2 feet long. Circumference, 5 1/2 inches. Here-fore telescopes of this size, with solar eyepiece and multi-focal lenses, have sold for \$8 to \$10, or even more. We do not claim our telescope is as nice and expensive in every particular of construction as a \$10 telescope should be; that would be unreasonable; but it is a positive wonder for the price. Each telescope is provided with 3 interchangeable objective lenses—one for ordinary range and hazy atmosphere, the other for extra long range in clear atmosphere, increasing the power and utility of Telescope about 50 per cent.

COULD COUNT CATTLE NEARLY 20 MILES AWAY. F. S. Patton, Arkansas City, Kansas, writes: "Can count cattle nearly 20 miles; can see large ranch 17 miles east, and can tell colors and count windows in house."

SAW AN ECLIPSE OF SUN. L. S. Henry, The Bronx, New York, writes: "Your solar eyepiece is a great thing. I witnessed the eclipse at the Austrian Tyrol when the sun was almost 80 per cent concealed."

COULD SEE SUN-SPOTS. Rutland, Vt., Feb. 16, 1910.—Telescope arrived O. K. I have seen the spots on the sun for the first time in my life.—Dan C. Safford.



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718 LUCAS AVE., ST. LOUIS, MO.



COLMAN'S RURAL WORLD

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ST. LOUIS, MO., OCTOBER 22, 1914.

WEEKLY.

Simplicity In Home Decoration

Important All Through the Treatment of Walls, Floors, Furniture, Pictures, Curtains, Draperies and Bric-a-brac—Consider Also Color, Design and Appropriateness.

By Helen Scott, Ohio.

THE keynote of good interior decoration of the home is simplicity. Add to this the gift of a fine color sense and a personal feeling of proportion and you accomplish wonders. But everyone has not this combination of faculties. Home decoration is an art that must be cultivated. Beginning with the walls, let us see how best to treat the various factors and accessories that the home decorator must deal with.

The walls of a room define its limits and form the background for the pictures and furniture. That the walls may serve this purpose, due consideration should be given to their treatment. Flat surfaces appear so only when decorated with plain covering or with a covering which has a conventional design or a realistic design worked out in neutral colors against a background of like tone. If a wall is treated with a paper in realistic design, the rose, for example in all its shades and curves, the result is always a bulging surface. A long list of the kinds of wall coverings might be made including the kalsomine, muresco, papers, paint, burlap, tapestry, grass, cloth, cretonne, chintz, etc., each one serving some particular purpose. Kalsomine and muresco give an attractive and inexpensive wall covering. It is now possible to secure these in tints and shades of the colors. They give a plain flat surface which is an excellent background for pictures. Another point in their favor is that such materials may be put upon the wall by the housewife herself. Paint is our most sanitary wall covering and is very appropriate for kitchens, bathrooms, and pantries, but not pleasing in any other rooms of the house.

Paper while not so sanitary is probably a little more effective since a greater variety is offered. In fact, so great is the variety that it is almost necessary for the housewife to arm herself with a "list of don'ts" before invading the paper shop. Bold figures in papers annoy and distract attention. Bright, gaudy colors refuse to harmonize with their surroundings. Gilt figures are uncertain; when viewed from one position, they give one impression and from another a different one. They absorb light and are cold and repellent. Glazed surfaces are hard on the eyes. Even though all these characteristics exist in some papers, there are many in beautiful neutral tones, such as the gray greens, deep dull browns, delft blue either in the plain or small indefinite design, which are most pleasing for living rooms. Or perhaps we will find lovely tapestry papers with colors and designs so perfectly harmonized that the effect is a flat surface; these are especially good for the dining room. The dainty white and cream papers with a tracing of flowers, vines or lines over their surfaces are suited to the bedrooms, when trimmed with a border small and neat running around the room at the angle where wall and ceiling meet or between the wall covering and the drop ceiling. The other materials mentioned for wall coverings are equally good, requiring a little more care and adding a little more expense.

Some very profitable optical illusions may be produced in the decoration of wall spaces. As horizontal lines have a tendency to decrease the apparent height of a room, often a wall space will be broken into many divisions to lower the extreme height of the ceiling. Again, an extremely low ceiling requires heightening and perpendicular lines which extend from the baseboard to the ceiling without a break will seemingly do this. A large

room may be made to appear smaller by the use of a good, rather indefinite design in a wall covering. On the other hand a room which is very small will seem much larger if decorated with a plain covering of some kind.

The exposure of the room will influence the selection of the wall covering, warm colors being used for the north room and cold colors for the south room. If many pictures are to be hung in a particular room, a plain background will afford a better setting for the pictures than a figured background. In the selection of all coverings, bear in mind that the woodwork is the frame of the wall, so to speak, and that those which will blend with the wood will be more effective. On the other hand, gray, green or brown woodwork in dull or mixed finish, will harmonize with most of the wall coverings. Yellow varnished woodwork is hard, repellent and inharmonious. The woodwork should be kept in the background.

Of all the points to be considered in choosing wall coverings, perhaps color and design are the most important. Color has its effect upon us. Red and yellow exhilarate and excite; gray, green, brown and dull blue make for quiet and repose; lavender and violet depress. Designs may set us to counting or force us to draw upon our imaginations and make grotesque figures from their lines. Colors properly chosen and blended and designs carefully selected and used with discretion will make for beautiful wall coverings.

Floor Coverings.

The floor is the weight bearer and must be treated so as to give weight to the room. For that reason the floor is always the darkest spot of color in the room. The kinds of coverings are numerous. They may be the plain rag rug, beautiful in its simplicity, prac-

tical because it is cheap, durable and easily cared for, the carpets of simple weave, the ingrain and "Thread and Thrill" carpets and the Indian rugs, all in good taste in their proper places, or the Brussels carpet, most durable and attractive for living rooms and dining room, and found in many attractive designs and good colors, at reasonable prices, considering the wearing qualities. The velvets, too, are beautiful. When selecting a velvet rug for a living room or dining room, the plain colors will not prove as serviceable as figured rug in colors for every print and every particle of lint and dust will show.

The wall covering carefully chosen will serve as a guide in the choosing of the carpet. To secure color gradation the carpet must be darker in tone than the wall covering or the effect will be "top heavy." The carpet should lie flat. To accomplish this, the plain carpet or the one with the indefinite all-over design should be chosen, a design which is worked out in closely related color-tints of green with a touch of black to add weight, browns and greens in combined scheme, old rose in its tints with tan and cream intermingled, etc. Red figures on a white or green background give a startling effect. All designs for carpets should be conventionalized. In nature we do not walk upon roses and we should not do so in our homes.

Greater and better contrasts will be secured by the use of plain floor coverings, with figured wall coverings, and vice versa. The keeping of floors in a good sanitary condition is a problem to the housewife. It is made possible by the use of small rugs or one large rug on a painted, varnished or waxed floor. The rugs may be carried outside and cleaned and the floor mopped with a dustless cloth or mop.

With a can of paint, patience and labor, an old floor may be made attractive. A new floor may be waxed and made very effective.

The floor space partially covered with one large rug is the most practical arrangement for living rooms and dining rooms, while the small rugs are most effective in bed rooms, bath rooms and kitchens. The simple rag rugs which may be dyed to harmonize with the general color scheme are quite appropriate for such rooms.

The covering for the kitchen floor should receive as much attention as that for the living room. The pretty sanitary tile and cement floorings lose some of their charm when we consider that nothing is so tiresome as standing on these hard resistant floors. The wood floor on the other hand gives to the weight of the body.

Furniture and Its Uses.

The decorator faces a difficult problem when she is forced to choose from the great variety of furniture now found in the stores. Fifty years ago it was not so difficult for the supply was not so great nor varied as now. First, the question of appropriateness confronts the buyer,—is it the thing for that particular room?—will it harmonize with the surroundings there? There are many styles which are as passing as styles in dress, which few can afford to consider. The general aim, however, is to purchase something which is good in line and design, attractive in finish, and reasonable in cost. Every piece of furniture should be useful and express its purpose in every detail. Straight lines in furniture express force and purpose better than curved lines but often gentle curves and rounded corners will reduce angularity. The mission furniture has been slightly modified in this way, with better lines as a result. This style is so liberal that only a few pieces will furnish satisfactorily.

If only those pieces of furniture which actually meet our needs were chosen, simplicity in furnishings would be the result in place of the overcrowded homes which are so common everywhere.

Good lines may be lost if the finish of the piece is not good. A varnished surface is cold, unsympathetic and inartistic, and the rubbed or waxed surface is much better. If one is burdened with a motley supply of furniture, there are two solutions of the difficulty. The exterior finish may be changed or as pieces wear out they may be replaced with others which possess good lines and design, the choice in the main being confined to one particular style for each room. However, one need not hesitate to mix furnishings if each piece is honest in structure and line, and if the finish is quiet and subdued. One style seems to harmonize with all others, namely the wicker; it looks equally well with the mahogany, oak or mission.

Hanging the Pictures.

Pictures, bric-a-brac and curtains give the finishing touches to the home. These express the individuality of the decorator and must be chosen with due consideration for their use, purpose and style. If a picture is pleasing and interesting enough to be worthy of a place on the wall, it should not be surrounded with inharmonious ornaments. A position on the bare wall where nothing would distract the attention from the picture would be better. Many good pictures have been made uninteresting by improper framing, careless hanging and poor grouping. Frames add weight to the picture, they tend to preserve and hold it in place. Some pictures are framed without mats, as scenes done in



Most Everything is Here that One Needs for Cooking, and the Cupboard Over the Sink Adds to the Convenience.

look infinitely better framed with the flat brown, green or black frames. The dainty water colors require a mat of white or gold enclosed in a narrow gilt frame. Japanese prints in their delicate colors are made quite effective when finished with a mat of brocade, perhaps, and with a narrow black frame. Photographs properly framed should be properly hung. Pictures hung high are less pleasing than those hung about the level of the eye. Those which are hung with visible wires are not artistic. If possible conceal the wire, or that being impossible, hang the picture so that the wires stretch perpendicularly to the moulding. Often the order of grouping will rob the pictures of their effectiveness. The mixing of styles and colors of frames is in poor taste. A group of

pictures in brown frames will be more interesting than the same pictures in brown, black, gilt and white frames. If there is one corner of the room which is dark, a picture light in color will do much to brighten that spot and if another corner seems too light, a dark toned picture will soften the light and bring harmony between the two corners. A few good pictures, not those which express sadness for they are depressing, nor those which are extremely funny for they become tiresome, but those which are interesting and pleasing, when effectively hung, will be an inspiration to those who see them every day as well as to the occasional guest.

Bric-a-Brac.

Bric-a-brac which is useful is usually beautiful while that which has no

use is a discredit to its owner. The tiny cups and saucers, the cobweb tidies, the chopping bowl on which is painted a snow scene, the roiling pin with the pink ribbons, the hair wreathes and elaborate sofa pillows, have played their parts and passed on. Today we find in the stores candlesticks, desk sets, baskets, clocks which keep time, trays, etc., all beautiful because they are useful and add to the attractiveness of our surroundings.

Curtains and Draperies.

Curtains and draperies which were designed for shutting out light, heat or cold, are often used for no other purpose than to fill space. Mantels covered with lambrequins become dust catchers and are also very inartistic. Our dislike of the imitation should in-

fluence us just as much in our choice of furnishings as in our choice of friends—the sham should have no place in our homes. Sham lace curtains are undesirable. The madras, acrim, voiles and marquises cost little more than the imitation lace and are easily washed. Draperies, too, may be of washable materials. Those which carry out the color scheme of the room are most pleasing. Figured materials against a plain wall give pleasing effects, which plain materials are more pleasing against a figured wall. Cretonnes, chintzes, tapestries, monk's cloth, friar's cloth arras cloth and bur-lap are all good materials for draperies. Curtains and draperies should conform to the structural lines of the windows or doors at which they are hung.

Conveniences for the Farm Home

Ways and Means of Getting Away From the Drudgery of Hard Work—Install One Or More of Them This Fall for the Benefit of Your Own Household.

By Ella C. Morton, Illinois.

OLD ways and old things in household management and equipment were all right in their time, and some of them are all right today, but modern methods and conveniences are better. Too often it is a lack of effort rather than lack of means which makes us put up with the old ways and the old things. In my travels through many of our country districts, I have seen lots of conveniences which might easily be installed in countless homes that lack such things. I shall describe a few of them.

The Water Supply.

One of the conveniences which a housekeeper appreciates above all others, is a bountiful supply of good water. To have to go outside, to a pump some distance away, and carry all the water to the house is drudgery. In many cases a little time and not a very great outlay of money would install some kind of a water system in the house.

I have seen the water brought in pipes from some mountain or hillside spring. I remember one place in the East, where there was an hydraulic ram down in the meadow, which forced a small stream of pure water into the scullery of the kitchen. Here there was a large tank to supply water to the sink and the stationary wash tubs. A pipe extended to the reservoir on the stove so that when needed it could be easily and quickly filled with water. A small room off the kitchen was to be fitted as a bath room and the water to be connected with it. The water was not very hard and was used for all purposes. With a good sewer drain, these people had no water to carry in or out—a great saving of labor.

Simple Hot Water System.

Another convenience I remember seeing was a barrel set up on a stand in the wash room off the kitchen. This barrel was in some way filled with soft water from the cistern. Through the kitchen fall there was a pipe running from the barrel into the fire pot of the stove. This warmed the water, which could be drawn off through a tap. To have lots of hot water on the farm is a great thing and is as convenient for the men as for the women.

A windmill or a small gasoline engine and a sufficiently high tank will supply water to any part of the house or barn.

Have a Bath Room.

In connection with water it seems the proper place to mention a bathtub. Many think this is a luxury to be only enjoyed by town folks. People on farms are even more in need of this convenience after the heat and toil in the fields. Where its need is badly enough felt, a way is made to get it.

This summer when staying at a farm home, there was a tap at my door in the morning and my hostess said, "If you care to take a bath you will find a bath tub and plenty of hot and cold soft water at the end of the hall. It's only a rough place

over the kitchen, but we enjoy having it all the same. My boy did the plumbing himself and fixed things up, so it didn't cost us very much." I found my warm bath as delightfully refreshing as it was unexpected.

It was a tin bath tub connected with a hot water tank in the kitchen below. The cold water came from a galvanized tin tank supplied from the cistern by a force pump. I could see as the mother had said, that the cost had been very little, and it certainly was a comfort to those people.

I have seen home made wooden bath tubs nicely painted white, to which the water had to be carried, but could be self emptied, through an outlet pipe. No one in planning to build should omit the bath room.

The Inside Closet.

In cold parts of the country the inside closet should be deemed a necessity, not a convenience. It is a matter which has much to do with the health of the household. The aged and delicate run a great risk in going into a cold, snowed-up outside closet, while little children neglect themselves rather than venture out into the cold—a neglect which is responsible for much ill-health.

Where there is no water system a crematory closet could be put in. I have seen a number of them in homes and when connected with a good flue they are satisfactory. I think they cost about \$25. A dry earth closet can often be built in the far corner of the wood shed. A thousand times better to have these daily comforts than a well furnished drawing room.

Dish and China Closets.

In building it should always be arranged to have the china closet or built-in cupboard between the dining room and the kitchen. I was greatly taken with one I saw in a certain home. Part of the wall between these two rooms was made into a cupboard extending from the wall to the ceiling. There were drawers for table linen, kitchen towels and cutlery below, and shelves above for dishes, etc. There were sets of doors on each side and nobes on each end of the drawers which extended straight through. The doors could be opened and the drawers pulled out when anything was wanted from them, when either in the kitchen or the dining room. This contrivance saved many steps.

It was in this farm home I saw also the idea of having a large drawer just near the floor under the hall steps—a splendid place to hold hats and gloves.

The Dumb Waiter.

Then there is the dumb waiter or elevator from the kitchen to the cellar. Very occasionally you find one in a farm home and yet what a lot of running up and down stairs they do save.

One evening I was in a kitchen on a farm and I said to Mrs. L., "What's that for?" pointing to a large basket similar to what is used for carrying berry baskets in the field, only this

one had wire coming from the sides to the handle to brace it and keep it from tilting. "Wait a minute and I'll show you," and forthwith she placed in the tray of the basket the meat and butter plates, the cake, the cream pitcher and the left over fruit, and carried all down stairs at once. "I had my husband make it," Mrs. L. explained, "It saves me lots of trips downstairs. The narrow rim around the edge keeps the things from slipping off."

"I wouldn't be without this place for a good deal," said another clean, energetic housewife to me, as she opened a door and pointed to what might be called a "cubby hole" or little landing at the foot of the back stairs, where were a couple of pegs and a bench. "I have the men slip off their coats and dirty boots and leave them there, and you can't imagine what a lot of dirt it saves being carried upstairs. Another thing that perhaps you haven't noticed yet is the cement walk from the barn to the house. That's a great saving to the kitchen floor in muddy weather."

These are only a few of the many conveniences that one finds in some farm homes and that could be enjoyed almost everywhere. Don't let this fall go by without installing one or more of them in your own home.

ACETYLENE LIGHTS ARE EASY TO MANAGE, AND CHEAP.

The old and unsafe oil lamp should be a thing of the past in most farm homes, as a system of acetylene lighting can be installed now-a-days cheaply and easily. I will describe a system that I examined recently, while on a visit to a friend.

Out on a cement block about five feet square stands the little acetylene gas plant. It looks like a big galvanized iron bucket about five feet high and four in diameter. Inside it are two compartments which are to be filled with water. Above is a place for holding calcium carbide. As this drops into the water a gas is sent through a hollow wire to the various rooms in the house and barn to be burned. When the pressure of the gas gets low a little clockwork arrangement is released by a trigger and another piece of carbide goes

down to give off more gas. I cannot imagine anything more simple. There seems nothing that could go wrong with it even in crude hands. The one I saw was to have 15 or 16 lights, one light being quite enough for an ordinary room. This very large size outfit with nice ground glass shades, burners which ignite by electricity, that is, need no matches to light them, costs \$250 and lasts as long as the house does—of course that means \$250 completely installed. A smaller one will cost as little as \$150. A fine one may cost thousands of dollars for fine fixtures but the light can be no better. This large size averages about \$2 a month to run it. It is as cheap as lamps.

Acetylene lights are so safe that insurance costs no more with such a system in the house than without it; the light is quite as white, clear and clean as electricity, with its most modern lamps, and a good current, and far superior to gas or lamps. It is not quite as easy on the eyes as daylight, but is almost so.

Acetylene gas is not poisonous if by chance a jet should be left open; in fact, it has such a decided odor that no one would want to leave it open, thus assuring safety. It is claimed for it that it would have to run five days in a room before enough could escape to ignite.

And think of the saving in labor; the filling of lamps, the cleaning of chimneys and boiling of burners and keeping of corners off the wicks and washing of old, oily rag—, all this exchanged for 15 minutes work once a month—putting in fresh water and carbide and two hours work once a year cleaning out any sediment that might have gathered from water and carbide. It is worth thinking about. Any one who keeps it in mind will unconsciously work towards its attainment.



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CATTLE FOR BEEF AND FOR MILK

FEEDING CATTLE ON POOR SPOTS OF THE FARM.

One of the cheapest methods by which you can build up the poor, yellow hilltops and other poor places on your farm is to enclose them with a rough, temporary fence and feed beef steers, yearlings and dry cows there for three or four weeks. With eight or ten rolls of high chicken wire fence you can build a sufficiently substantial fence around such yellow, gravelly spots in a day, with the help of your hired man. With such a fence braced from the outside, very cheap posts will hold the fence up, as gentle beef cattle, yearlings and dry cows are not hard to keep within bounds.

By feeding straw, hay, alfalfa meal and other body building foods on such places for a month have doubled the yield of wheat, oats, corn, potatoes and other produce on these spots about my farm which have been washed yellow by the rains, and any farmer with hilly land can do the same. This can be done to best advantage in the autumn, before the ground freezes and before the weather gets so cold that the cattle must be kept in sheltered feeding pens. It is also practical in early spring, after the severest part of the winter is over. The manure and the rotting straw tramped into the ground will insure a bumper yield from such places the first year after you give the land this kind of treatment.

Loose, sandy land thus treated had better not be plowed until next spring, a short time before you want to put in your crop, as such land washes badly during heavy winter rains if it has been plowed in the autumn or early winter. Some of the fertility naturally will wash off the top of the unplowed ground, but the rotting straw and hay will hold much of it on these knolls until spring. By that time the straw will be fairly well rotted, and if turned under deeply, it will aid materially in restoring the old-time fertility of these hilly places.

A heavy dressing of crushed limestone added to the land immediately after removing the cattle to some other spot, will render this fertility more available, and increase the yield of such places next year.

On heavy, clay land it will be better to plow such spots in the autumn, immediately after taking the cattle off and liming the land. The amount of lime to be applied will depend on the amount already in the soil, and on the kind of crop you expect to put there next year. Your soil may not need this extra lime though a light dressing will aid in the decomposition of the straw and other fertilizer, and also enable the soil to absorb and retain a large proportion of the fertility.—Isaac Motes, Illinois.

CATTLE FEEDING AT SOUTH DAKOTA EXPERIMENT STATION.

An acre to a cow and one cow per acre seems to many farmers an ideal beyond the reach of practical farming. On that basis a quarter section farm could support say 150 cows, leaving 10 acres for the farmstead.

But here comes Professor C. Larsen of the South Dakota Agricultural College with a statement on the subject which goes away beyond the one-cow-one-acre proposition. He says:

"It is not profitable to pasture dairy cows on land worth from \$50 to \$100 per acre. None of the land on the college dairy farm is used for pasture; it is too expensive, since about two acres are required to pasture one cow four months. If this same land, two acres, were plowed, manured, and put into corn for silage, they would produce from 20 to 30 tons of fodder for the silos, sufficient to feed

three cows a whole year with but little additional hay."

This comparison seeming very strong, Professor Larsen was asked just how the college dairy farm proceeds to get along without pastures. This is his statement:

"On a 20-acre tract of land belonging to the dairy department of the state college, one and one-fourth tons of alfalfa have been cut and the second stand is knee high and is about ready to cut. This field was seeded last summer, when the season was a little dry, and the stand obtained was not the best.

"On 60 acres belonging to the dairy farm efforts are made to produce as many nutrients as possible for feeding; 20 acres being in alfalfa; 33 acres in corn for silos; 5 acres in oats and peas for hay; and 2 acres in mangel-wurzels for feed. The five acres that were in oats and peas are now out; and a crop of millet has been put in and harvested on the same ground, thus obtaining two crops on the same land in one season.

"About twice as many feed units can be obtained per acre by putting the land into alfalfa, corn and oats, peas and millet, as from a 50-bushel oat crop. This, of course, means that the ground should be well manured and well tilled. The manure from 75 head of dairy cattle is applied to the 33 acres used to raise corn for the silo. There are four silos in connection with the dairy barns, holding about 450 tons in all. Each fall these are filled with corn fodder, providing splendid feed for the dairy herd during the entire year."

APPLES AND OTHER SUCCULENT FOODS FOR COWS.

Winter is rapidly drawing near, and it is time for the farmer and dairyman to plan so as they can carry their stock through the cold, bad weather of the coming season to the best advantage. This year the apple crop over the whole country appears to be the best for many years. Old and experienced farmers and dairymen recommend apples as food for stock, especially milk cows. The succulent character of apples, as well as roots, potatoes, cabbage, pumpkins, etc., is what constitutes their value in connection with rough feed. The point in winter feeding should be to connect food of this character with the main feed. I have often noticed what good results were obtained by feeding timothy and clover cut and cured well when quite green. I have also found it a most excellent plan to combine green feed of any kind with ripened hay or even straw. But the rations should be given regularly and in as nearly uniform quantities as possible; for, if fed too largely, it will bring on a relaxed condition of the system, which will result in weakening and setting back the animal. On the other hand, with a well-proportioned and uniform diet, there will be a beneficial and strengthening effect. The list of succulent material to help in this is quite extensive, and may be largely and cheaply grown, including, among other things, carrots, beets, parsnips, potatoes, pumpkins, and then the apple, which is now extensively grown everywhere, and always a large amount of refuse and proportion of inferior fruit, which may be fed, but too often is permitted to go to waste.

Where apples are very plentiful, they are estimated to be worth, as a feed, from 20 to 25 cents per bushel, and there is less difference in this respect between the sweet and the sour than is usually supposed. The value lies in the nutritive properties. The wholesome, sanitary effect has quite an equal value. It is the succulent, fruit-like element that gives a summer character to the winter feed. In beginning to feed apples, small rations should be given at first, to be gradually increased until the right quantity is reached. A peck per cow per day is enough to begin with, carried up to half a bushel and more, divided into two feeds.

Pomace, from which the juice is expressed for cider, may be used in this way. I have found it a good plan to store pomace away in alternate layers of hay or straw to preserve it for feed during winter.

HORSE BREEDING AND RAISING

THE OLD AND THE NEW IN TROTTERS AND SULKIES.

Now that Peter Billiken, 2:10½, has demolished the record of 2:16, that Rarus made to high-wheel sulky over a half-mile track 36 years ago, and practically equalled the record of 2:14 made by Goldsmith Maid over a mile track, the burning question as to the relative quality of the trotters of these times and those of half a century ago may be considered to have been decided. To be sure, the last named trotters possessed no such advantages in the way of tracks, shoeing, balancing and training as Peter Billiken, but it must also be considered that the son of Peter the Great, 2:07½, fast, good trotter though he is, is by no means the best product of his times as were Rarus and the Maid in their day. To fairly test the question of relative superiority some horse like Uhlan or The Harvester, with championship distinction, should be selected, and then there could be no dispute. By Peter Billiken's performance in 2:14½, it must seem a fair conclusion that Uhlan and The Harvester could pull a high-wheel sulky over the Goshen course in something like 2:05, although this may be a too sanguine estimate. At any rate, Peter Billiken's demonstration must convince most people that our modern trotters are naturally faster than those of the early days, which is, after all, only a logical conclusion. If it is admitted that they are not, all our biological theories and deductions are confessedly wrong. We produce better grain, better fruit, better vegetables and better live stock of all other varieties than our forefathers. Why should we not produce faster horses by the same process of selection and development? Perhaps we do not breed better men and women now than formerly, but if so, it is because there is no specific purpose or aim in their production. With a little more attention to the principles and laws which govern the purpose to produce speed in horses there might be as much improvement in the human as in the equine race, for growth and improvement in everything are naturally ordained under the law of the universe.—Trotter and Pacer.

SORE SHOULDERS.

In the rush of fall work there may be some sore shoulders. When boils or other sores appear, keep the collar clean and dry. Always remove it at noon. Have it fit. Paint the affected places with a mixture of two ounces of tincture of iodine and six ounces of extract of witch hazel, twice daily. When a boil starts paint it daily with tincture of iodine and cut it open when soft; then swab with the tincture once daily until healed. The other mixture is for use on the neck. Old, standing sores should be cut out and the wounds treated until healed. This is the quickest and best way of handling all old collar sores and tumors.

EXAMINE THE TEETH.

Mares presented for breeding that do not appear to be in the pink of condition should have their teeth investigated. The stallion or jack-owner should take a careful look at such mares, if their teeth do not fit up good or if there should be a sharp place or any condition which prevents good mastication, the owner should be advised to have them attended to. If a resident veterinarian is not convenient the breeder can take the name and address of those needing this work and make a date with a dentist so that these men can be notified to be there at a particular time. Mares must have full benefit of all nutrition if they are expected to be good producers. The average mare owner

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pays little attention to the best methods of keeping his mares in a physical condition. Quite frequently good animals are allowed to have ailments that reach a chronic stage by not being familiar with these conditions. A little observation on the part of the breeder can frequently be of much service to the mare owner by telling him that a simple operation by a qualified man could practically restore the animal.

COST OF HORSE LABOR.

A farmer in Illinois, after obtaining a record of the cost of keeping his work horses, found that the feed alone, charged at farm prices, was \$68.70 per horse. The total of all costs was \$92.30. By crediting the horses with value of manure saved and with the increase in value of young horses, the net cost was \$87.50. Compared with other cost data on horses, this is a reasonable yearly cost per horse. His horses worked an average of 813 hours per horse, which cost \$87.50, or 10½ cents for each hour.

Don Blazes (4), 2:18½, one of the string of Wonder Worker Billy Smith of Tiffin, O., was a double winner at Van Wert, O. He is a very clever young trotter.

Sir O., 2:13½, a double winner at Dayton, O., and a new performer for The Stoic, sire of Sir R., 2:03½, was sold recently by Ora Jump of Kenton, O., to Art Doersam of Columbus, O.

Lepide, the handsome trotting stallion and sire, owned by Cliff Todd of Montgomery, O., died recently following an injury sustained in a collision on the Dayton, O., track while being exhibited.

James B. Haggin, aged 87, the multi-millionaire horseman and owner of the famous Elmsendorf Stock Farm at Lexington, Ky., died recently at his magnificent Newport villa. He is survived by a young widow, formerly Pearl Voorhels of New York.

Frank Shank won the \$800 early closing event for trotters at Canfield, O., with Potamia, 2:18½, and the 2:30 trot with Little Tide, 2:25. The first named is by Peter the Great, 2:07½, out of Messopotamia by The Bondman and is owned by George Stambaugh of McGuffey, O., and the latter is by Meko and out of Zappa by Nutwood, 2:18½.

CREAM OF THE DAIRY NEWS

BIGGER PROFITS FROM MILK.

The prices of good country butter and the profits from the farm dairy have been steadily increasing for the past 10 or 15 years. Improvements have been made in handling the milk and cream until what was once a drudgery has become a pleasure as well as the source of a greater profit than the farmer once dared reckon on. We must believe it was the greater quantity of an inferior grade of butter that once held prices to such a low ebb and not the smaller amount of really good butter that found its way to the grocer's counter. It is a notorious fact that the farmer as a rule is putting up a far better grade of products than was the rule even a decade ago, says a writer in one of our exchanges. This follows as a natural result of the improvement in the methods of handling the dairy products and the elimination of most of the old regime of crocks and jars now possible in the use of any standard cream separator.

A good cream separator will increase the efficiency of the average farm dairy at least 50 per cent. It eliminates about all the crocks and jars once necessary under the old methods of "raising" cream. It cleanses the milk of any little dirt particles that may have gotten into the vessels while milking and thus insures a better quality of butter than possible under the old process. The separator under even ordinary management gets a lot more butter fat out of the milk than we ever dreamed was in it while practicing the old methods of separation, thus making a great gain in this respect. After you have figured up all this just consider the value of nice warm "skim" milk fresh from the cow for the pigs and calves.

Just the other morning we were privileged to overhear a conversation on this subject by a small lot of farmers who have tried separators and found them indispensable. It was early in the morning and the crew was just coming in at the neighbors for a day's threshing. Some were on time while others were still detained at home with chores and the number of other tasks that occupy the morning hours on the average farm. Mr. B. had sent word that he would not be on hand till 8 o'clock as his wife was ill and he must skim up the jars of cream for the day's churning before he could come.

"Why don't he get a cream separator?" spoke up one of the number. "I quit that skimming business several years ago and don't see any sense in doing without one. B's got plenty of money to pay for a good separator and then have a lot to spare that he's made out of his cows this summer if he only thought so."

"How many cows does he keep now?" another wanted to know.

"Three," answered the first spokesman, "and they're good cows too. But I'm satisfied he would have made several more dollars out of his cream this season if he had owned a separator and used it."

"Why it wouldn't pay to own a separator for no more than three cows would it?" inquired a doubter from the outer circle.

"Why it would pay a man with only one cow to have a separator," exploded a good neighbor who had hitherto held his peace. "I wouldn't go in and buy one of the big ones of course, but there's a lot of good smaller makes to choose from that are just as good in their way. Of course they are smaller and it takes a little longer to run the milk through but it does the work just as well as the larger machine. I can run the milk from two cows through the one I bought last spring for \$16, in just five minutes."

"And then you get out of all this sour milk stop business," supplement-

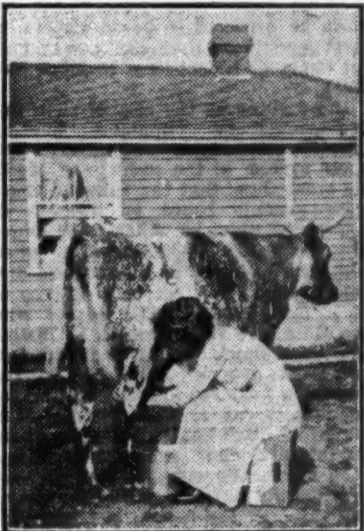
ed another. "Why, I can milk and have the calves fed in a half hour on warm separated milk. I always mix in a little meal and shorts to thicken it and we think that's cheaper than feeding whole milk."

"Well do the calves grow as fast on separated milk as they do on whole milk?" inquired the doubter again, not to be taken in too easily.

"Yes sirc, I've got some three months old calves over at home that will tip the scales with any others of their age in the neighborhood, that have been fed on separated milk and shorts mixed together at milking time. They have been bucket fed since they were a day old and any one here will have to admit they are nice calves if I do say it."

No one disputed the statement and all admitted that a good separator was a pretty handy thing to have. Its efficiency is being increased from year to year as improvements are added and its use is a matter of science.

The proper care and attention to the handling of this machine as important items to be considered in the work. The parts should be thoroughly washed and scalded after each separation especially during the summer



A city visitor who did not know much about milking, but managed to get on the right side of the cow.

months. It is a practice of some to merely run hot water through the machine and let it stand at every other time without disassembling the parts but one cannot hope to produce top notch butter with such a practice. A certain amount of sediment and grease is sure to remain in the working parts and the machine cannot do the best work unless each part is kept scrupulously clean. The parts should be taken to pieces and scalded thoroughly then dried in the sunlight if possible. This destroys all bacteria that may be adhering to the parts and insures a clean separation for the next milking.

It pays to keep a close watch on all the little details as to cleanliness in regard to the separator for upon this depends the value of the machine to the dairy. A dirty separator is a detriment to good butter making and consequently a loss to the farmer in custom and quality to product.

STIR MILK IN CANS DURING WATER COOLING.

The milk in the top of the can just above the water level in the cooling vat cools much more slowly than the milk that is below that level, according to experiments just completed by the dairy division of the United States Department of Agriculture. The warmer milk in the top of the can does not circulate naturally with the cold milk at the bottom. The cold milk being heavier than the warm will remain at the bottom of the can, while the warmer and therefore lighter portion will remain at the top, and practically no circulation will take place. The transfer of heat in this case is very slow; moreover, the milk around the sides of the can cools much more quickly than that in the center of the can. It, therefore, is important to stir the milk while cooling.

In experiments made with cans where the top of the milk was above the water level, it was found that the milk above that level remains from

five to six degrees warmer than the portion below the level. Bacteria consequently will develop at a higher rate in the top of the milk, and when later the milk is mixed, the scoring of the whole can full will be hastened both by reducing the temperature of the whole and also by the increased number of bacteria in the warmer portion.

In the experiments all the cans were cooled by the same method. The milk in some of the cans was stirred every 15 minutes, while that in others was not. The water in the cooling tank was 62.6 degrees Fahrenheit. The milk that was stirred cooled from nearly 90 degrees to slightly above 60 degrees in three hours. The unstirred milk did not get down to a similar temperature for four hours and 15 minutes. Meanwhile, in the unstirred milk all the milk above the water level in the running water was five to six degrees warmer. The comparatively rapid decrease in temperature when the milk was thoroughly stirred at intervals of 15 minutes demonstrates the advantage of agitating the milk while cooling.

The advantage of stirring is emphasized by the fact that at the time the milk was stirred the temperature of the room was over six degrees warmer than was the case when the unstirred milk was put into the running water. The time taken to cool the milk in either case, however, is too great for good results, and the test served best to demonstrate the necessity of employing some form of milk cooler suitable for farm use, and more efficient than running well water.

Where ice is plentiful and may be had at nominal cost, it is easy to reduce the temperature of the milk to 40 degrees Fahrenheit. This may be done by running the milk or cream over some form of cooler around which cracked ice, or a mixture of the ice and salt, is placed, or through which ice water is circulated.

Where the milk is placed in cans and set merely in cold water, or even in a tank filled with ice water, the cooling goes on very slowly, especially if the cans are large.

THE QUALITY OF AMERICAN BUTTER.

The general impression among butter dealers is that the quality of American butter has deteriorated greatly since the introduction of the hand separator system. On the whole I think there is some justification for this claim; at least, there is a larger percentage of poor butter coming to the markets at present than there was when the whole milk system was in vogue.

There must be some reason for this, as we must admit that the makers today are much in advance of those of 10 or 12 years ago in the art of buttermaking. They have a better understanding of the underlying principles of dairy chemistry and bacteriology, hence they are much more familiar with the changes that take place in the manufacture of butter, such as the development of various fermentations in cream. If the makers today possess a greater knowledge of the art of buttermaking than the makers of 10 or 12 years ago then the defects in the quality must be due to some other cause or causes than the system of manufacture.

In the manufacture of goods of any kind it is a generally recognized fact with the mechanic that unless the raw material is in good condition the finished product will suffer. That is the trouble today with American butter. The question of economy has brought the hand separator into existence and established it as a permanent fixture on the farm. The various agents who have introduced the hand separator to the farmer have not given him sufficient instruction to enable him thoroughly to understand the importance of separating milk in a clean place, free from all odors, and of thoroughly cleansing the separator every time it is used. Nor has the importance of cooling the cream as quickly as possible to check fermentation been brought to the farmer. With these precautions neglected the result is as could be expected. Cream is delivered in an unsanitary condition, and frequently in a high degree of fermentation. No matter what the ability of the maker is or what technical training he has had

he cannot produce the finest grade of butter from cream in this condition.

The cow population in recent years has not kept pace with the human population; therefore there has been an unusual demand for all grades of butter. This has led manufacturers to become somewhat indifferent as to the quality of the raw material. Fierce competition among manufacturers for cream, regardless of quality, has made the farmer indifferent or careless. If a farmer can get the same price for cream that has not been cared for as he can for the best grade that has been properly cooled then it is unreasonable to expect him to put forth the extra labor that proper cooling requires.

The importation of foreign butter, which has been made profitable and possible by the lowering of the tariff on this commodity, has somewhat frightened the manufacturers in this country. At present a number of dairy organizations are springing up in various states with the object of doing something to improve the quality of American butter. In Kansas and Nebraska this summer they have adopted the method of grading cream and paying according to quality. This is a step in the right direction. All other food products are bought on a quality basis, then why not cream?

There is an old saying that "it is an ill wind that blows no one good." This has been demonstrated to some extent by the recent outbreak in Europe. Much as we regret the horrible war, we cannot fail to see that it has helped out the men who have stored great quantities of butter, as the importation of foreign butter has ceased. This will mean higher prices for butter, which in turn will benefit the producer. I have been reliably informed that butter dealers in New York and San Francisco had large contracts for foreign butter, which will now be declared off. G. L. McKay in Breeder's Gazette

HIGH-CLASS JERSEYS.

We have here at Hood Farm, three 3-year-old Jerseys that are doing work worthy of special mention, and I am sending you their performances for the first six months of their lactation period, believing this report will be of interest to your readers:

The three have given, under authenticated test rules, 28,075 pounds 11 ounces milk, 1,583 pounds 4 ounces 85 per cent butter, an average of 9,358 pounds 9 ounces milk, 527 pounds 12 ounces butter each, a daily average of over 50 pounds of milk and nearly three pounds of butter for six months, and they are only 3-year-olds. Surely the Jersey cow cannot be accused of being a small milker! It is almost needless for me to add that these cows are all strongly bred in Sophie's Tormentor line, and are closely related to the other large producers at Hood Farm.—J. E. Dodge, Hood Farm, Lowell, Mass.

MISSOURI, GREAT CATTLE STATE.

Missouri is becoming a great state for live stock. It's a pretty safe guess that she puts as many tops on the St. Louis and Kansas City hog and cattle markets as do all other states combined. Recently a carload of Clinton county steers sold at \$11 per hundredweight, and the same week a load of Boone county yearlings brought 10½ cents, home weights. Southern Missouri is a great supply station for feeders and stockers. In 1913 Ozark, in Christian county, shipped 433 cars of stock.

The farmer who can call his cows up at milking time is pretty apt to be a more successful dairyman than the one who must go and drive or dog his cows to the barn.

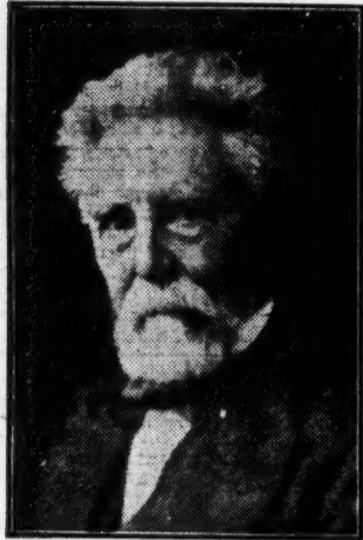
In the commercial ice cream business, too rapid freezing produces a soggy and coarse grained product. On the other hand, freezing too slowly may allow too much whipping and thus produce an undesirable open and foamy texture. Again cream makes it more viscous, thus producing a firmer and smoother ice cream. A raw cream produces a little better body and a smoother texture than pasteurized cream, but proper aging of the pasteurized cream will overcome this defect.

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Keep the girls on the farm and you solve the problem of keeping the boys there.

Trying to size up a girl without having seen her mother is almost as bad as picking seed corn out of a crib and expecting to win a prize.

Not much money is needed to make most girls contented, but they want some that they can call their own—and they want to see it replenished regularly.

Financial dependence at home is driving out into the world many a boy and girl who really do not need to go—nor want to for other reasons—and whose parents would be glad to have them stay.

The canvas of life in the farm home is the boy or girl, and the painters are the parents. Others may finish the picture, but the beginning—and that is what counts—is made with the brush and paint of parental action and love in childhood.

Many a farmer's daughter is using her earning capacity on the housework in her parents' home, and thus saving the expense of outside labor. If she gave the same amount of time and attention to any business or profession away from home she would draw a salary and enjoy her

personal independence on it. Then, why should she not enjoy a similar independence with a stipulated income at home?

Among the puzzling things in a mother's life are the various and varied duties confronting her; duties to herself, to her husband and family, to her servants, to her neighbors, to her community, to her church and to her state—but few are the mothers who cannot or do not find the way. Like an engine that almost never stops working, our mothers make these things work together like the cogs of heavy machinery.

VALUE OF MECHANICAL EQUIPMENT FOR THE HOUSEHOLD.

The subject of mechanical household equipment has been until recent years very sadly neglected. This is quite evident when one visits the average farm home where as yet the modern equipment is lacking and the same general line of household conveniences which Grandmother used are still in service. The average farmer's wife uses the same old churn, the same old broom, dust pan, mop, cook stove, and wheezy pump which the grandfolds used. The only marked improvement which one can note as generally adopted is in the slight changes in types of utensils.

Compare this with the general adoption of farm equipment. What farmer now cradles oats with the old-fashioned cradle? Many never saw one. How many farmers are there who still mow the hay with the old scythe? In place of the equipment used by Grandfather there is practically an entire new field of labor saving devices. There are available the same line of labor saving devices for the mother in the home; and to the man on the fence it would appear to be poor economy to pass such equipment by, especially since the commissary department maintains a position of vital importance on the farm.

The retired farmer who moves "to town" does so usually because his wife is worn out and must have rest which is made possible by the convenience of public utilities such as water, gas, electric lights, sewage disposal, good roads, etc. How much better off he would be at home if he could be induced to install these conveniences on the farm and join hands with the neighbors in promoting such improvements as tend to keep men on the farm.

The work of the farmer's wife can be changed from drudgery to real pleasure by adopting up-to-date equipment, and savings can be effected which will more than pay for the entire cost. It is estimated by government experts that the average farmer's wife lifts more than a ton of water per day! The most conservative figures will show that the cost of this wasted energy would pay for a complete water works system in less than five years and carry the interest on the investment.

The installation of a safe system of sewage disposal will in many cases be paid for directly in reduced doctors' bills and loss of time on account of illness. A good heating system will heat the average house at a cost which is less than one-half the cost of heating with stoves.

A little sprinkling in the garden at the right time may easily save a hundred dollars' loss, and a garden hose with only a fair water pressure available will usually save losses which would pay for the water works system many times over. Further, the water works system can very easily be designed so as to permit the installation of an automatic sprinkler system which will practically eliminate fires! This one feature of fire prevention is alone of sufficient economic importance to warrant the adoption of the equipment needed to avoid such losses.

Lamps, lanterns, candles, etc., are the cause of most country fires. These could be practically eliminated by the installation of a small co-operative electric lighting system in the neighborhood—and light made available at a rate cheaper than by using kerosene lamps.

There are other considerations which prove the economic importance

of household equipment, among them the following: Time saved in the house could be profitably spent in the garden or with poultry or bees, and would introduce the much needed change of interest and fresh air needed to bring health and recreation to the tired mother. The servant girl problem is very materially bettered if not altogether solved. There is little wonder girls won't go to work on farms, when forced to live in uncomfortable homes and work with poor equipment. Few girls were ever lured away from the city by pictures of a week-end bath in a wash tub.

In some cases the power equipment needed for milking machines, cream separators, feed grinders, and other farm machinery can be used in the supply of power for the household and thus serve a double duty. In fact it should be understood by the farmer that a comprehensive plan of the entire mechanical equipment should be worked out for each farm so that wasteful duplications and expensive changes may be avoided. These are problems which call for the services of an engineer. The farmer cannot afford to economize by designing his own power plant and sanitary equipment. A farmer can no more be expected to be an expert on farm machinery than can a mechanical engineer be expected to judge live stock.

If we estimate the cost of such improvements as plumbing, heating plant, water supply and sewage disposal system at the average of \$1000, we must show that the value of these improvements based on interest of 6 per cent must be at least \$60 annually to justify their adoption, when considered simply on the dollars and cents basis. This certainly is true of most farm homes. The farmer who can thus save \$5 per month by installing these improvements is justified in going into debt for them. The banker who is in business to help the farming community can as well afford to lend money on such equipment as on farm implements, and should encourage such loans. Farmers, nationally, carry a debt of only about 15 per cent of the value of the farms, and can borrow money on at least 40 per cent of the value of the property.

This, in view of the fact that many farmers are paying for their farms in seven to eight years, allows no excuse for not furnishing the farm home with the more modern conveniences. The man who is not convinced of this fact should trade places with his wife for six months, and keep accurate account of the time lost in carrying water, cleaning lamps, throwing out slops, building stove fires, etc. At the same time note the saving on doctors' bills. The result of such an investigation would be as revolutionary as has been the adoption of the modern farm implements.

MAKING THE MOST OF EVENINGS IN THE COUNTRY.

Night spreads its mantle of darkness very early during the fall and winter months, and on the farm, after the evening meal and chores are over, there still remains a long evening to be passed before retiring for the night. While town and city people may spend every night in a round of pleasure at concert, theater, picture show, or ball, or more profitably, listening to a lecture, attending a night school, frequenting reading rooms, or training in gymnasiums, people of the country have for the most part to rely on themselves for means of amusement or improvement.

But this does not necessarily imply that country people pass their time in as humdrum or apathetic way as some city people seem to imagine. The latter class wonders how the other can exist away from the bustle and attraction of the city.

Indeed, in many ways the long evenings in the country are a boon. The members of the family get better acquainted with each other. This is such a strenuous life that it seems to be hustle, hustle from morn till night, and there is not much time for an interchange of thought until the quiet of evening comes. The city people who are busy all day in shop or office, and at night rush off to some social function, seem to have very little time really to know each

other. To most farm women the long evenings seem a haven of rest to which they look forward during the day when feet are busy going from pantry to kitchen, and from kitchen to cellar, and hands have been almost constantly employed in sweeping, washing dishes, cooking, swinging the churn, ironing, and doing the thousand and one other things which the farmer's wife and daughters have to do.

Sitting down and resting in an easy chair seems sometimes the acme of comfort, even if there are socks to darn or shirts to mend while sitting. Hands may be busy with the needle and minds improved at the same time, by listening to one of the family read aloud from some good author. Literature is cheap and plentiful, and no home need be without the best in fiction, history, biography, poetry, Magazines, farmer's papers, and the current news of the day in some good daily or weekly newspaper may always be on the table.

But it would become monotonous to spend every evening reading or listening to reading. The program might be varied. There are such a variety of games now-a-days which train the eye and memory, and the brain and fingers, that some evenings could well be spent in this way. Then there is music, that which seems to wake a responsive chord in every human heart. The old familiar songs and hymns could be sung, and some of the new ones learned. The world's best music and song can now be brought into every home. The introduction of gramophone and phonograph make a whole concert possible without leaving the home fireside. And even the best of these instruments are not expensive when one considers the vast amount of enjoyment they give. Then there are candy pulls, charade parties, and many inventive amusements of young people. Debating societies, reading circles, and a host of other useful diversions make the woman's evenings on the farm occasions to be looked forward to with pleasure.

GOOD RURAL HOMES KEEP BOYS ON THE FARM.

Having good rural homes is the mainstay of our existence as a people. In the home begins the lives that make or destroy our social, moral, political and even physical perfection. Wrecks do not often come from well-ordered homes. A boy or girl who is well nourished, clothed and made comfortable at home by the happy, cheerful and sane philosophy that comes from a mother's love and a father's healthy protection, will rarely prove a burden on society or become an undesirable citizen.

To keep any one anywhere there must be something to appreciate, and to make something on the farm worthy of appreciation is the secret of making farmers. The country favors high aims and lofty endeavors. Under the sunrise purity of her ozone-laden atmosphere and with the inspiration from the lives of neighbor-folk, the country is a heritage fit for kings.

But what do we find? Too many of our rural homes are nothing but penitentiaries. Houses that have no excuse for their erection, save that of a roof to protect from the elements. The need of heat, light and ventilation are subsidiary questions, and are often forgotten in the house planning. Many farm houses are uninviting to boys and girls. They have no rooms they can call their own—no place where they can design, scheme, plan and study—a defect indeed when we consider that our Shorthorns, our Yorkshires, our Plymouth Rocks, and our Berkshires, are attended to in every detail that will further their improvement. Surely boys and girls are of more value than cows and sheep.

To keep their children on the farm, different parents have different ways. Some provide fine carriages, and the children soon graduate as city swells on a few dollars a week. Then there is the farm house across the road. Framed in red letters and hung on the wall is the proverb, "Early to bed and early to rise, makes a man healthy, wealthy and wise," and every morning the whole household is up at break of day and working. And

what is the reality? Homes which might be bright with music have none. All the reading that comes in is the almanac. No songs to learn, no books to read, and what is there in life? Visitors may come, but what is the conversation? Hens, horses, cows, turkeys, cows, horses, until one wishes anything for a change.

Perhaps one will ask, is not this a higher moral standard than the cities? This may be true, but it is not the point. The standard is not to be "as good as," but it is to be the best. It is useless to ask any one to endure the life some of our young men and women on farms are called to bear. Establish a good home, place education within reach of all, create some enduring attraction, and the problem of keeping boys and girls on the farm will be partly solved. A financial interest in the farm or the live stock and pocket money for the girls will complete the task.

In comparing the success of country and city boys in reaching high positions the balance is with the country boys. Recent statistics compiled in the United States show that out of 25 presidents, 23 were country boys. Out of 45 governors 41 came from rural districts. Of the cabinet ministers taken into the reckoning some 126 in all, 111 were boys reared on farms.

It is interesting to read the opinion of J. J. Hill, of Great Northern fame, on the subject of country environment. He once said: "My present home is on a farm, and my principal reason for making my home there, rather than at some of the lakes or in the city, is that I have three boys of my own, I am trying to give a fair start in life. I believe there is no end of arguments that living on the farm gives the best chance for a growing boy. While my making the farm my home sometimes works an inconvenience to me, I realize that the benefits to my children are well worth the inconvenience to me of getting in and out between my office and the farm."

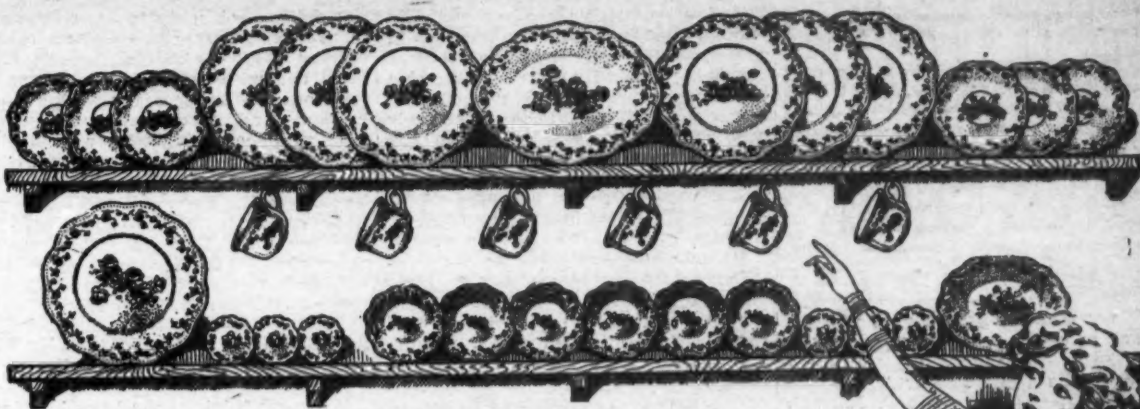
There is no greater asset for any young man than an idea. Give him a vision of the great things that can be accomplished upon the farm, of the riches in soil regeneration, of the glories of animal production and perfection, of the abiding interest that attaches to alfalfa and trees—all these visions are laying around him, like the chariots of old on a thousand hills. The eyes that could behold them would brighten and the ideas streaming forth from the glorification would so enthuse the profession of agriculture as to place farm life in the position it should be. There is no nobler life in the industrial world than that of the man who does things upon the farm. The home should be the feeding ground for these ideas.

FIX UP FOR THE WINTER.

Have the repairs on the barn and milk house that you decided must be done before snow flies again been taken care of? And then there were certain conveniences that you thought of last winter and you declared that you wouldn't go through another winter without them. Have they been put in?

Winter will be here all too soon and the fall work will soon be out of the way. If the busy summer has kept you from doing these things, they should be looked after very soon. It is discouraging to have to put up with inconveniences just because we didn't get time to fix things up. Too often these things are put off because we somehow hate to start on the fixing up. With some people there seems to be an aversion to doing things out of the ordinary routine and so the repairs and conveniences go undone. Now is the season to get busy.

The source of poisonous organic compounds found in the soil has been variously explained. That they may be formed as a result of the decay of plant residues in the soil, caused by soil bacteria, is a relatively new explanation. It may also be possible that the growth of a given crop may favor the multiplication of certain kinds of bacteria, which in turn may produce changes in the soil which are either detrimental or beneficial to subsequent crops.



FREE

33 PIECE
DINNER SET
AND
41 EXTRA
PRESENTS

74
ARTICLES
ABSOLUTELY
FREE



Every Reader

remains the same. Don't let this opportunity pass or you will regret it when it is too late. Now is the time.

of this wonderful offer, man, woman, boy or girl can get one of these sets. We have already given away nearly 25,000 sets since we started our dish offer, and although we have to pay more for our dishes now on account of the war in Europe our great popular offer

Description

This magnificent 33-piece dinner set is the product of one of the finest and largest potteries in the world, the old rose and gold leaf design having become famous in aristocratic homes.

In the center of each piece there is a cluster of roses depicted in their natural colors and surrounded by the brilliant green foliage so that almost the only thing missing in the fragrance. The rich gold leaf border on the edge of each dish adds greatly to the beauty of the old roses, and makes this a valuable and beautiful dinner set.

World Renowned

Each dish bears the genuine stamp and TRADE MARK of the great world-renowned Owen China Company of Milnerva, Ohio. This stamp guarantees the high superior quality of this set of dishes, guarantees them absolutely. It proves to you that this is the original Owen china-ware. Oh, if you were only able to see the dishes themselves, the rich deep red of the old roses, which is burned into the ware itself so deep that it won't wear off, no matter how much or how long you use the dishes.

Each set is complete and comes nicely packed in a neat box and is shipped to you by express. We will guarantee, no matter how many dishes you may have that you will prize this set above all others that you may possess.

Thousands Write Us Like This

BETTER THAN SHE EXPECTED.

The 33-piece dinner set has been received O. K. It is the prettiest dinner set I ever saw—it is just grand. All of my neighbors who have seen the dinner set want to get a set just like mine.—S. E. McKelthen, Cameron, N. C.

WIFE TOO ELATED TO WRITE.

Little Travis (my wife) is too much elated over her dishes just received from you to write, so I write for her. They are far more beautiful and much better ware than she expected. Please accept our thanks for same.—Kelsie Travis, Hardin, Kentucky.

ALL O. K.

I received my dishes, post cards and extra surprise all O. K., and they are simply fine.—Meta Reiter, Wheatley, Ark. There is hardly a reader of this wonderful offer who cannot secure one of these beautiful 33-piece dinner sets and secure it within a few days after sending name for instructions.

Big Free Offer

All we ask is that you assist us with our work among your friends and neighbors, something that you can do much better and more easily than any employee we might send to your vicinity, and it is because you can save us this expense that we can give you such an expensive present for such a little effort on your part.

Fill out the coupon below and send it in to us and we will send you a sample of our famous needlecase, containing an assortment of 115 needles for every purpose, including bodkin, darners, etc.

When you get the sample needlecase we want you to show it to 16 of your friends and neighbors, and tell them about a very special offer whereby each person you see can get a needlecase just like yours, free.

As soon as we get the coupon below with your name and address on it we will lay aside one of these handsome sets of dishes, and the 41 extra articles, and send you the big sample needlecase, together with full instructions, and everything necessary to make the little work easy for you, so that as soon as you finish your work we can send you the 33-piece dinner set and the 41 Extra Articles by express without a minute's delay. An offer could not be more liberal or more fair and we know you will be delighted.

IMPORTANT

It is important that you write us accepting this offer at once before some other person accepts it in your immediate vicinity. For the one who receives our instructions first has the easiest work to do. After you get your dinner set and your friends see it there will be others waiting for a chance to accept our offer, but you should be the first.

I also include with each set of dishes my special plan for paying all express charges on the dishes. My whole plan is so simple you can't fail to earn a set of these dishes if you will only make up your mind to do so.

41 Extra Articles FREE

The 33-piece dinner set is not all you get by any means. The truth of the matter is there is so much to tell about this big new gift plan of ours that we cannot get it all in this space. It is full of SURPRISES and DELIGHTS for those of our friends who are willing to lend us a helping hand at spare time.

A Surprise

The very first letter you get from us will surprise you before you open it. It will also delight you by telling all about the big collection of rare and beautiful post cards which we want to give you in addition to the dishes.

Another Surprise

And still, THAT is not all. One of the prettiest surprises of all is kept a secret until the day you get the dishes and find a pretty present that you knew nothing about. Isn't this a fascinating idea? And what makes it even more interesting is that we have something nice for everyone of your friends and neighbors, too. We'll tell you ALL about it as soon as we receive the coupon with your name on it.

JUST SEND YOUR NAME

The coupon starts the whole thing. Just send me your name and address. I don't ask you to send any postage or anything else—just the coupon. So hurry up and send it in.

When you get the beautiful dishes, 40 post cards, and the extra surprise premium you will say, "How can you afford to give such beautiful premiums for such little work?" Never mind now HOW I am able to give these valuable gifts, on such a very, very easy plan, the fact remains that I DO give them only to my friends who are willing to lend me a helping hand during their spare time.

SIGN THE COUPON—IT STARTS EVERYTHING.

Send No Money

Colman's Rural World,
St. Louis, Mo.

I want to get a 33-piece dinner set and the 41 extra gifts. Send me the big sample needlecase, and tell me all about your big offer.

Name

P. O.

R. F. D. State.....

THE HOME CIRCLE AND THE KITCHEN

EXCEPTIONS.

I do not pine for human gore
Yet boldly I assert
I'd like to slap the brainless yap
Who calls a girl a "skirt."
—Peoria Journal.

I pine not to bring others woe—
I trust I'm not so mean;
But I would like to swat the bo
Who calls a girl a "queen."
—Houston Post.

I pine to see no injured gink
Clutch at himself and wail;
But I'd like to boot the crude galoot
Who calls a girl a "frail."
—New York Evening Sun.

I am not prone to violence
But I should like to maul
And kick and muss the insane cuss
Who calls a girl "some doll."
—Judge.

I loathe not much your "queens" and
such;
Those names don't give me pain,
But I'd like to jolt the leering dolt
Who calls a girl a "Jane."
—Carthage (Mo.) Democrat.

Primarily I am for peace—
The watchful waiting game—
But I would soak the measly bloke
Who calls a girl "a dame."
—Kansas City Star.

I'm fair as far as fairness goes,
But I hope that wretch is stricken
With a bruised and battered nose
Who dares to call a girl "a chicken."
—Wichita Beacon.

I'm usually a peaceful cuss -
Intent upon my duty,
But I would gladly maul the guy
Who calls a girl "a cutie."
—Kansas Industrialist.

Oh, queen and doll and skirt and Jane,
Are names not too rippin'
But I would like to smash the gink
Who calls a girl "a pippin."
—Colman's Rural World.

SOME KINDS OF COOKING UTENSILS SAID TO BE UNSAFE.

A reader who kindly answered the call for a recipe for burnt sugar cake specifies a granite kettle in which to burn the sugar or caramel. Before using a granite or enameled kettle for this, or any other purpose that requires little or no liquid in the kettle, listen to what a noted authority on dietetics has to say about the use of granite cooking utensils, which he says are all right if rightly used. I give the substance of his article.

He says that when graniteware is heated to a certain point, tiny particles of the enameled surface flake off. These are so small as to be practically invisible and the surface of the lining does not show where they came off on casual observation. If the heat is continued longer, or at a higher degree, the enamel will crack off in larger pieces, which leaves a rough edge to flake off at intervals, if the vessel is retained in use. The smaller flakes, being too small to be noticeable, even in the mouth, are often carried into the stomach with food and are the cause of many internal inflammations, notably appendicitis.

This man says it is a dangerous practice to cook a small amount of anything in the bottom of an enameled dish or kettle over a very hot fire because the dry heat on the sides of the vessel will cause this almost imperceptible flaking off. It is also dangerous, he says, to use a chipped kettle for cooking any soft food that must be stirred or that is sticky. I am not vouching for the truth of these statements, but give them for the consideration of women who cook.

Certainly the increase in the num-

ber of appendicitis cases has curiously enough kept pace with the increase in the use of granite cooking utensils. There is probability enough in the idea to make me prefer aluminum cooking utensils, which last almost indefinitely and, so far, have had no charge like this laid against them.—Ex.

A WATERWORKS SYSTEM FOR HOUSE, BARN AND GARDEN.

Home waterworks has been an interesting subject to me, and for several years I had been thinking I would put in a system; so two years ago I thought I had waited long enough, and bought a five-horse-power gasoline engine which I attached to my well and pumped for awhile direct to where it was needed. I found this too much trouble, besides being expensive, so I bought a 630-gallon steel pneumatic tank, which I connected to my pump with one-inch pipe. I then ran pipes to my twelling, stock barn, and down beside my sweet potato bed and garden.

One hour's pumping will furnish enough water to last me four to six



NO CONVENIENCE IS MORE APPRECIATED THAN RUNNING WATER, HOT AND COLD.

This neat kitchen is in the home of Mrs. R. L. Whitsett (who stands in the picture) of Mapleton Stock Farm, near Holden, Mo. A hot water radiator is shown at the right, behind a corner of the kitchen table. The pantry is shown through the open door and the sink, with its hot and cold running water is conveniently located to the other units of cooking. The range, not shown, is located at the left of the sink. In this house there is installed a hot water heating system and also a bathroom with hot and cold water on tap. Hardwood floors are in all rooms, excepting the kitchen, which has linoleum over pine. Mr. Whitsett has a farm of 320 acres and believes in good farming and a comfortable life.

days, according to the amount I use on garden and potato bed. I usually pump until my pressure gauge shows from 20 to 30 pounds pressure, and with this amount I can throw water over any building on my place. I have hydrants at convenient places for all purposes, such as watering garden and for household purposes and fire, using a 50-foot hose.

As to cost and maintenance. My engine, pump jack and fixtures cost me \$120; tank and pipes \$75; piping, bibs and plumber about \$20. For ordinary pumping alone, your engine should not cost over \$45 or \$50, but I use mine to pull a wood saw when I prepare my winter's wood. I have been out but \$1 for repairs in the two years. One gallon of gasoline will last about 15 days on an average. Of course you will need more water in summer than in winter. You can reduce expenses by using second-hand pipe, which you can get from mail order houses at from two to three cents per foot.

The size of the engine and tank and amount of piping will determine, to a large degree, the cost of the outfit. I

put the tank close up to the well, and to prevent freezing boxed up tank, leaving about one foot all around and filled box with sawdust. In winter I take out all unnecessary piping and hydrants and store away.

When once you get your outfit in working order you would not do without it for twice the cost, and you will be surprised at the small cost of same. Your wife will thank you a thousand times over, for it will save her many, many steps. Your stock, if they could, would certainly be very grateful to you.—W. R. Hawks, Tennessee.

METHODS OF KEEPING THE HOME CLEAN AND SANITARY.

When we think of the housekeeping of today and compare it to the time of our grandmothers we feel we have made very rapid strides in home sanitation. We all know something about the days when the houses were without screens and the flies were kept from the table by means of a peafowl feather brush wielded by a little girl perched on a stool. At the same time the floors were covered with heavy carpets, the doors hung with heavy curtains, upholstered furniture in the parlor, and night air in the bedroom would have been plain suicide.

Dare I say the bed-bug, too, has had its day? We hold up our hands in horror at the mention of the bed bug, and yet we are putting up with the housefly, or typhoid fly, that in a few years will be considered just as great a disgrace as the bed-bug. At one time we thought the fly just a nuisance because it tickled our noses and specked our furniture. Today investigation shows that it is born in filth. There is nothing too filthy for him to eat. But since the fly is here our question is how will we get rid of it? This can be answered in four words: Destroy their breeding places.

See that the stable refuse is used as a fertilizer rather than a home for the fly. Lime and coal oil should be sprinkled about the stable. Keep the garbage bucket covered and dispose of all decaying vegetables. In spite of this precaution flies will invade the house. Formaldehyde exposed in a closed room is sure death to the fly.

In our pantries and cellars there has also been a great change. David Copperfield said his mother's store room was a dark room and when the door was open and she was in there with a light it let out a moldy air in which there was the smell of soap, pickles, pepper, candles and coffee, all in one whiff. We should be careful about the estimate of the amount needed to be stored away and then all decaying matter should be taken out from time to time. The theory that a store room must be tightly closed and dark, no longer holds good.

The surface wells are especially dangerous. The filth from the barnyard is often drained into the well to poison the family and cattle. The water may be perfectly clear and sparkling and yet be a deadly poison.

To keep a thoroughly sanitary home we must understand sanitary conditions within the house as well as without. Let there be daily inspection, sun-bathing and ventilation of every room. Use a vacuum cleaner when it is possible to obtain one. If this is out of the question damp tea leaves, coffee grounds, or bits of damp paper sprinkled over the rugs before sweeping are a great help. Wipe off the furniture with a dustless dust cloth made by soaking a piece of white cheese cloth in paraffine.

Perhaps one ought to say that many homes of today are barbaric. They are at least museums. Savages and half civilized people delight in piles of things. The more tattooing, the more ear rings, the better. A few good pictures decorate a home but too many cheap decorations are only dust catchers.—S. S.

PUMP SAFER THAN OPEN WELL.

"A few years ago we used to be inclined to believe that a great lot of our pollution of wells went through the ground," Mr. Warren H. Booker of the North Carolina Board of Health writes: "Now, we are coming to change our minds and we believe that a great source of difficulty with these open wells is on account of people carrying filth on their boots and shoes

PURE BLOOD MAKES HEALTHY PEOPLE

Hood's Sarsaparilla removes scrofula sores, boils and other eruptions, because it drives out of the blood the humors that cause them. Eruptions cannot be successfully treated with external applications, because these cannot purify the blood.

Hood's Sarsaparilla makes rich, red blood, perfects the digestion, and builds up the whole system. Insist on having Hood's. Get it now.



and washing it off on the well platform nearby, and then rinsing it back into the well by means of waste water or by means of actual contact with the bucket or rope and human hands and lips.

"Another means of polluting our farm wells is by means of dust, dirt, trash, insects, etc., getting in at the open top. The health officers are coming to believe now that by all odds the greatest protection to ordinary farm wells is to close the top up tight and install a pump and trough. This protects the top of the well and carries the waste water away so that there is much less danger than we formerly thought there was by pollution reaching the well after traveling through from 25 to 100 feet of soil."

MORE-BIRDS MOVEMENT.

To induce every property owner in the United States to increase the number of birds on his land is the avowed purpose of a movement just launched in New York, according to an announcement made by T. Gilbert Pearson, secretary of the National Association of Audubon Societies. "Ten thousand dollars have just been subscribed for this purpose," writes Mr. Pearson. "This new work, which we may call the 'More-birds Movement,' will consist, in part, of establishing throughout the country many experimental stations for attracting birds. Bird boxes, feeding and drinking devices, and similar artificial apparatus, will be set up in suitable places on estates to serve as object lessons to all the people of the region."

It is understood that attractively illustrated bulletins explaining this subject, as well as the propagation of grouse, quail, wild turkey, ducks and geese, will be issued and given wide distribution. The propaganda will also be furthered by means of lectures, slides and motion pictures. This enterprise will be under the charge of Herbert K. Job, the well-known author and bird-protectionist. Mr. Job has resigned the office of state ornithologist of Connecticut, where he won a wide reputation as a lecturer and birdculturist, and will at once take up this work of the Audubon Association.

SHIPPING CUT FLOWERS.

When I first tried sending cut flowers from my garden, I packed them as soon as gathered, and within an hour of the time they left the garden they were in the mail or express. A florist told me, however, and I have proven it by my own experience, that flowers which are to be shipped should be gathered the evening before packing and left standing in deep vases, so that the stems will be in the water almost up to the flower heads. In this way the stems absorb sufficient moisture to supply the flowers until they reach their destination, and they will arrive as fresh as if just picked.—Mrs. A. W.

PATTERNS FOR RURAL WORLD READERS.



In ordering patterns for Waist, give bust measure only; for Skirts, give waist measure only; for children, give age only; while for patterns for Aprons say, large, small or medium.

9811—Ladies' Shirt Waist.

Cut in 7 sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 2½ yards of 36-inch material for a 36-inch size.

9832—Ladies' Draped Skirt.

Cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 3 yards of 45-inch material for a 26-inch size.

9828—Ladies' Dressing Sack.

Cut in 7 sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 4½ yards of 24-inch material for a 36-inch size.

9833—Ladies' Over All Apron.

Cut in 3 sizes: Small, medium and large. It requires 5½ yards of 36-inch material for the medium size.

9787-9762—Ladies' Costume.

Waist, 9787, cut in 7 sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt, 9762, cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 2½ yards of 40-inch material for the waist, and 3 yards for the skirt for a medium size. Two separate patterns, 10c for each pattern.

9867—Dress for Misses and Small Women.

Cut in 4 sizes: 14, 16, 17 and 18 years. It requires 5 yards of 44-inch material for a 14-year size.

9743—Ladies' House Dress.

Cut in 6 sizes: 32, 34, 36, 38, 40 and 42 inches bust measure. It requires 5½ yards of 44-inch material for a 36-inch size.

9741—Child's Rompers.

Cut in 4 sizes: 6 months, 1, 2 and 3 years. It requires 2½ yards of 36-inch material for a 3-year size.

9734—Girl's Dress.

Cut in 4 sizes: 2, 4, 6 and 8 years.

ODDS AND ENDS IN KITCHEN AND PANTRY EQUIPMENT.

The quicker and easier housework can be done the better, so long as it is well done, and with this end in view the housewife should take advantage of every little help within her reach. Here are a number, for the most part inexpensive and within the capacity of the average woman to provide for herself:

Oilcloth for Pantry Shelves.

To cover the pantry shelves with oilcloth need not cost much, as common table oilcloth, in a fine lined, small checked pattern will do quite as well as regular shelf oilcloth—even better, as strips can be cut to fit the shelves, no matter how wide. Allow enough to fall over a little—as much as liked—then scallop and notch, following the lines of the pattern as a guide. Or oilcloth with wide stripes may be used, cutting the scallops out between the stripes and notching with a pinking iron; this looks like regular shelf oilcloth and is much cheaper. Tack strips neatly along the back of the shelves. This will last for many years and need only be wiped off occasionally to keep the selves in a neat and sanitary condition.

A Drain for Slops.

A drain to carry off the slops from the kitchen may be attached to a metal sink, or need be nothing more elaborate than a large funnel fitted into a three-inch pipe with elbow, carried down through the floor or out through the wall. This will save untold steps to say nothing of unsightly swill pails sitting around the kitchen. If slops are wanted for the hogs they may be run into a barrel, which may be jacked to keep them from freezing in the winter or souring in the summer.

Pails for Various Purposes.

Tin pails for kitchen supplies may be had in a variety of sizes with covers to fit for a few cents each. Or the pails which come with syrup and other supplies in may be utilized. Soak off the label, if there is any, and put a small wooden knob on the cover. Then with black or white paint, neatly print on one side the name of the article to be kept inside. For sugar, oatmeal and such things as are bought in larger quantities, use the larger pails—the one and two-gallon sizes. For coffee, tapioca, and such like the half gallons, and for starch, soda, and other things kept in small quantities the quart and pint cans. These with covers on are proof against dust, mice and insects, and arranged in a row on pantry shelves, with labels showing, are neat and convenient, much more so than all kinds of paper bags and boxes.

Little Helps.

A supply of little wooden knobs such as may be obtained for a few cents a dozen at any hardware or notion store. As soon as a knob comes off the teakettle or coffee pot lid, or a kettle cover, replace with one of these. This will save burning fingers and endless vexation.

A few simple tools in the kitchen: These should include a small hammer and saw, a screwdriver, a little pair

It requires 3½ yards of 36-inch material for a 6-year size.

9606—Girls' One-Piece Apron.

Cut in 5 sizes: 4, 6, 8, 10 and 12 years. It requires 2½ yards of 27-inch material for an 8-year size.

9690—Girls' Blouse Dress With Lining.

Cut in 4 sizes: 4, 6, 8 and 10 years. It requires 3½ yards of 36-inch material for a 6-year size.

These patterns will be sent to RURAL WORLD subscribers for 10 cents each (silver or stamps).

If you want more than one pattern, send 10 cents for each additional pattern desired.

Fill out this coupon and send it to COLMAN'S RURAL WORLD, 718 Lucas Ave., St. Louis, Mo.:

Pattern No.....Size.....Years
Bust.....in. Waist.....in.
Name
Address

of pinchers and a file. With these should be kept a box of assorted nails and small screws. Then when some little thing gets out of order or needs to be done there will be no need of calling on the men folks or running after tools.

A number of small holes in the middle of the boiler cover: This permits the steam to escape and prevents boiling over, but the best of the scheme is that the cover may be turned upside down over the boiler, the clothes lifted into it and allowed to drain before rinsing. This will prevent the sudsy water from becoming so hot and soapy as it otherwise would, and saves much extra rinsing. Holes may be quickly made with a hammer and good-sized nail.

A number of small boards with a small hole in the end to hang them up by. These are useful to cut bread or meat on, to lay cakes on for frosting, and for various other things.

These and many other little things I have found great helps in doing my housework easily and expeditiously, worth to me many times their trouble and cost to procure.—M. H.

A TYPEWRITER NECESSARY IN BUSINESS OF FARMING.

The clothes a man wears gives a pretty good index to his station in life. There is a parallel to this in the letters a man writes. When a letter is scribbled with a stubby lead pencil on a scrap of paper smudged and smeared with dirt, it creates a bad impression in the mind of the person who receives it. But a letter neatly typewritten, on a clean sheet of paper, preferably a letterhead, gives the same idea as does a neatly and plainly dressed man. By its appearance alone it creates confidence.

As a farm implement, the typewriter is not appreciated, yet it may be made one of the most important implements on the farm. With it the business correspondence can be handled quickly, and an exact copy made of every letter that is written. This in itself is a most important feature. How often do we wonder what was the exact language we used in a certain letter to so and so, and upon what date it was written; how often do we wonder why it is we never hear from a business letter that we wrote, when, as a matter of fact, our signature or town or state was omitted, or so badly written it was illegible.

Often our penmanship, while perfectly legible to ourselves, is impossible for some one else to read. It is rare indeed to find penmanship that will present the dignity in appearance in business correspondence of a typewritten letter. Not only that, but typewriting is always uniform; each character is alike all the time; the spacing between letters and words is uniform, and the writing is easily read, no matter if the spelling is imperfect.

So, while we are considering the farm home, let us give consideration to the typewriter. They are far from being as expensive as many of us might think. In almost any city second-hand "rebuilt" typewriters frequently can be bought for as little as \$10, while twice or three times that sum will buy a very good machine. Such typewriters are serviceable for almost any sort of correspondence, except that of a very busy office where the machine must be in operation for eight or ten hours every day. For lasting and most satisfactory results, however, it is best to buy a new machine of one of the standard makes.

The typewriter is gaining in popularity on the farm, just as is the spraying machine, the fanning mill and the tractor. It will be but a very short time until the farmer who does not write his letters with a typewriter will be considered as careless as is the merchant who continues to write his business letters with a pen or pencil.

Get some bitter apple from the chemist, crush it, and sprinkle it among the clothes. You will find it the finest thing on record for keeping moths away from everything, and one can use garments at a minute's notice, as there is no smell left by bitter apple.

Farmers' Classified Department

60,000 PAID CIRCULATION

RATE ONLY TWO CENTS A WORD

Colman's Rural World now has a family of over 60,000 paid in advance subscribers every week. This means that at least 250,000 farm folks are readers of these columns. Figure the cost of sending each of these readers a personal letter each week and then compare that cost with the low rate at which you can reach them ALL through the Classified Columns below. Count up the words in your advertisement, including initials and numbers which count as words, and multiply by two and you will quickly appreciate how low the cost is to reach these 60,000 buyers every week. No advertisement less than 10 cents accepted—and no fakes under any circumstances. Cash must accompany all orders.

ADDRESS,

COLMAN'S RURAL WORLD, Advertising Department, 718 Lucas Ave., ST. LOUIS, MO.

REAL ESTATE WANTED.

WANTED—To hear from owner of good farm or unimproved land for sale. Send description. C. C. Buckingham, Houston, Tex.

NEW YORK FARMS.

375 ACRES, black loam soil, 30 acres timber, 2 set good buildings, 90 apple trees. Including personal property, estimated worth over \$6,000. Price \$11,625. Easy terms. Free list. Ellis Bros., Springville, N. Y.

FARMS AND LANDS.

A RANCH FOR SALE CHEAP—Trego county, Kansas, 1,630 acres. Address Jno. B. Sneed, Cynthiana, Ky., for particulars.

MISSOURI LAND for sale, 3 to 5 dollars acre, 10 dollars down, 5 dollars month. Write for list. Box 592, Mt. Vernon, Ill.

IF YOU WANT farms or stock ranches in the Ozarks of Missouri, write A. J. Johnston, Mchts. Nat'l Bank Bldg., Springfield, Mo.

FOR SALE. Deeded land, desert and home- stead entries, near R. R. station. \$10 per a. Wm. Tew, Sterling, Colo.

DELAWARE FARMS, fruit, livestock, alfalfa. Best land near best markets. Address, State Board of Agriculture, Dover, Delaware.

FOR RENT—630 acres fine land in Louisiana for one thousand dollars, or will sell half at twelve-fifty per acre. Ed McGehee, Pinckneyville, Miss.

SEED AND NURSERY STOCK.

SWEET CLOVER—Order now. Mrs. J. T. Marlin, Falmouth, Ky.

SWEET CLOVER SEED—Eight-pound sample, hulled, re-cleaned, \$1. Haskell & Haskell, Garden City, Kan.

STRAWBERRY PLANTS—Send \$3.50 for 1,000 plants. Fruit trees, 10c each. John Lightfoot, East Chattanooga, Tenn.

SWEET CLOVER SEED—Pure white and biennial yellow. Special prices for autumn shipment, sent on request. Bokhara Seed Co., Box D, Falmouth, Ky.

TOBACCO.

FOR SALE—Fine leaf chewing and smoking tobacco. Send stamps for free samples. W. L. Parks Tobacco Co., Adams, Tenn.

BEES AND HONEY.

FOR SALE—Comb and extracted honey, Tennessee hams and bacon. J. E. Harris, Morristown, Tenn.

NULL'S FAMOUS Mellilotus Honey—10-pound pail, prepaid, express office for \$1.40. W. D. Null, Demopolis, Ala.

BEAT BEES making honey. No chemicals, recipe \$2; sample 10 cts. Big money in honey. A. A. Weeks, Hanceville, Ala.

HONEY—Fancy light amber from alfalfa and sweet clover, per 2 60-lb. cans, \$11.00, for 60 lbs., \$5.75. Bert W. Hopper, Rocky Ford, Colo.

BEST QUALITY new clover honey, 30-lb. can, \$3.45, two or more cans, \$2.30 each. Sample 10c. Price list free. M. V. Facey, Preston, Minn.

AUTOMOBILE.

CYLINDER rebored, including piston and rings, \$7.00 to \$11.00. Sterling Engine Co., 331 S Clinton St., Chicago, Ill.

AGENTS.

WILL PAY reliable woman \$250.00 for distributing 2,000 free packages Perfumed Borax Washing Powder in your town. No money required. W. Ward & Co., 214 Institute Pl., Chicago.

MILCH GOATS.

MILCH GOATS. Write George Wickerham, 2914 East Central, Wichita, Kansas.

SITUATIONS WANTED.

EXPERIENCED German, single man, wants work on farm. Address, Krause, 1412 Ross Ave., Dallas, Tex.

MISCELLANEOUS.

ALFALFA—Colorado irrigated alfalfa hay for prompt shipment. Geo. R. Wilson, Lamar, Colo.

COLLECT AND SELL names and addresses in spare time. Big income. No canvassing. Detailed instructions, 10c. Address Bishop & Son, Kaufman, Texas.

FOR SALE—Forty cans potatoes, cabbage and onions in either straight or mixed cars; write for delivery prices; pay after goods inspected. E. Wickham, Salem, Nebr.

LIVE STOCK.

BERKSHIRES—The large prolific kind. Pigs, \$10 each. H. H. Shepard, Pacific, Mo.

REGISTERED SHORTHORN cattle and grade Percheron horses. C. W. Barnes, Banner, Okla.

FOR SALE—Registered and vaccinated, Cherry Red Duroc-Jerseys. F. S. Wells, Imboden, Ark.

HOLSTEINS FOR SALE—High-grade females; one registered bull calf. Enoch Hous, Rochester, Wis.

REGISTERED HAMPSHIRE HOGS, best quality, reasonable prices. Frank Franklin & Sons, Vinita, Okla.

PURE-BRED registered Red Polled cattle, young stock for sale. Cedar Valley Farm, R. R. No. 2, Leslie, Mo.

O. I. C. SWINE, spring gilts and males; September pigs. Prize winners; priced right. Henry Shew, R. 3, Newton, Ill.

BERKSHIRES, registered, 130 lbs., \$20. Broad heads, large bone; Masterpiece breeding. H. C. Luttrell, Paris, Mo.

POLAND-CHINAS at Hill Top Stock Farm, also Aberdeen Angus bulls. For particulars address E. M. Goodrich, Archie, Mo.

GUERNSEY CALVES, 10 heifers, 2 bulls, beautifully marked, \$20.00 each crated for shipment anywhere. Write Edgworth Farm, Whitewater, Wis.

FOR SALE—High-grade Holstein calves, either sex, \$15 crated. Black registered Percheron stallion, 17 mo., weight 1,250, \$250. McFarland Bros., Watertown, Wis.

SALESMEN WANTED.

WANTED—Services of one or two salesmen to call on small town and rural merchants to sell oldest line of its kind manufactured. Rapid advancement in our sales, organization assured to the man who can qualify. Address, F. W. L., 400 Keener Bldg., Chicago.

SYRUPS.

BEST STRICTLY PURE Louisiana sugar cane syrup, retailed from plantation at wholesale prices. Booklet free. J. E. McGuire, Palacios, Tex.

HELP WANTED.

MEN AND WOMEN over 18—Wanted. \$65.00 to \$150 month. U. S. Government life jobs. Common education. Write immediately for list of positions open to you. Franklin Institute, Dept. M 167, Rochester, N. Y.

MARKET REPORT FOR THE WEEK

CATTLE DULL; HOGS UP.

CATTLE—Combined estimate called for 2,500 cattle, of which around 1,500 were natives. Most of the native run was she stuff; about the only steers of any consequence being around 15 couple of loads of medium-grade na- loads of native-Texas steers and a tives. The native-Texans sold 15c lower at \$5.60.

It was an unevenly lower trade on the bulk of cows and heifers, market being so uneven that it was a difficult matter to gauge prices. No vealers of any consequence offered, there being hardly enough to test the market, consequently were steady. Stockers and feeders were quiet, with a very small supply. Clearance was late and not very good.

Quarantine supply was estimated at 25 cars. The fresh receipts in car loads were placed at this number, but the salable supply was a great deal increased by some cattle which were carried over. Very few steers were available and practically nothing from Texas and Oklahoma. Some Arkansas range steers were about the only thing

POULTRY.

BUFF ROCK COCKERELS, \$1.00 each. L. D. Bailey, Girard, Kas.

BARRED ROCK pullets, beauties, 6 \$5.00. J. M. Jarvis, Goessel, Kans.

SINGLE COMB Buff Leghorn cockerels \$1.00. Alf. Johnson, Leonardville, Kan.

FOR SALE—Fine Rose Combed Brown Leghorn Cockerels. Kulp strain, \$1.25 each. Myrtle Johnson, Windsor, Mo., R. 21.

PURE-BRED Silver Wyandotts, White Wyandotts, Pekin ducks, Embden geese, Bourbon turkeys. Thos. Ridenour, Greenridge, Mo.

REDS—BUFF ORPINGTONS—Big boned, dark red, and big golden Buffs, from \$20.00 eggs. Sell cockerels cheap; egg laying strain. Ava Poultry Yards, Ava, Mo.

in this line on sale. They brought \$5 and cleared in a dull, weak market.

HOGS—With a moderate supply the market opened on a 10c higher basis on the good offerings of weights with some kinds showing a still greater advance. The good little pigs 110 pounds and under found ready sale and showed to be more than a dime higher in many places. It was the good shipping demand that gave the trade its strength on the better classes.

Two lots, about a load in all at \$8 represented the top of the market while the bulk of the good kinds went at \$7.60@7.90 and the fair offerings at \$7.25@7.50. Some plain hogs with weight in good sized lots sold at \$7 or but little better but they were on the rough order, strictly and then packers were not making much of a fight to see how many hogs they might purchase.

What hogs shippers and butchers cared for weighing 175 pounds and over found sale largely at \$7.70 and up to the top of the market, while the good mixed went to packers at \$7.55@7.75 and the fair mixed at \$7.25@7.50. The rough hogs sold largely at \$6.85@7.10 and of course they all went to the packers. Buyers were sorting the hogs closely so that there was lot of big hogs taken out that usually sell in with the load.

Lights and pigs that were good found ready sale, pigs under 110 pounds seeming to have the best call and showed the greatest improvement. Some pigs under 100 pounds selling as high as \$7.25 and some common ones at \$6@6.50, fair lights went at \$7@7.35 and good ones at \$7.40@7.75. The close was on a firm basis for the best classes and weak on the plain kinds that find no outlet except to the packers.

SHEEP—With a moderate supply the market was on a steady to shade higher basis and it was a good active trade so long as there was anything decent offered for sale. Prices are on a 25c lower basis than the best time the fore part of the week, but sheep still show a gain over the close of last week of 25c, while lambs on pretty much the same basis.

Several loads of native lambs at \$7.75 represented the top of the market. Fair grade lambs sold at \$7.50@7.65, with the culls and others that were not very good at \$6.50@7.25. Some Utah lambs sold at \$7.60.

Practically all of the mutton sheep found ready sale at \$5.25, as the slaughterers were anxious for them on that basis. Breeding ewes sold slowly as this branch of the trade is drawing to a close for this season. Good stockers and choppers went at \$4@4.75, fair stockers \$3.25@3.90 and bucks \$4.25@4.50.

HORSES—The best demand came for army animals, and prices paid for these were satisfactory and

were high enough to cover the full worth of the animals. Eastern and Southern buyers were scarce and the market on these types was not encouraging, to say the most.

MULES—A few sugar, miners and pit mules sold at weak prices, and, taking the market as a whole, there was a mighty slow, draggy trade. Cotton planters are not in the market for mules at present, and this had put a crimp in the trade to a great extent.

THE CARBON FILAMENT INCANDESCENT LAMP.

One of the things which it is unwise to use until it is worn out is the ordinary carbon filament lamp. This type of lamp deteriorates largely through the vaporization of the carbon of the filament. This reduces the size of the filament thus increasing its resistance, lowering its brilliancy and blacking the lamp globe so that less and less energy escapes as useful light. Tests upon this type of lamp show that if the lamp is marked for use on 110 volt circuits it should not be used upon 111 volt mains. On the surface it would appear insignificant whether the lamp were used on 110 or 111 volts but it has been demonstrated that an increase of one volt, while increasing the candle power perhaps 3 per cent, is reducing the effective life of the lamp from 15 to 20 per cent.

Users of the carbon filament lamp will find it to their interest to observe the condition of their lamps and to throw away all those that show appreciable blacking of the globes. This, of course, means a greater expenditure for lamps but this is offset by the reduction in power cost. (Many companies will exchange blackened or burned-out lamps without extra charge.)—L. S. Foltz, Colorado Agricultural College.

UNCOMMON BREAD DISEASE.

Spraying with a 40 per cent formalin solution is recommended by L. A. Fitz, professor of milling industry in the Kansas State Agricultural College, for bakeries and kitchens where the bread has become infected with "rope." A number of complaints of this disease have reached the college from Kansas bakers and others within the last few weeks.

Rope is a disease caused by a bacterial organism, which causes bread to be wet, stringy, and bad smelling. The bacteria may be spread to the different parts of a baking room.

Exhibits of rope-infected bread made by the college at the state baker's convention aroused considerable interest. Some of the bakers had never seen the disease, while others, having seen it, had been unable to classify it.

SING WHILE YOU WORK.

How many wives and mothers sing while doing their work? It certainly makes the task easier. It seems almost impossible to sing when the back aches, the baby crying and everything going wrong, yet a song will take the mind from the back and may quiet the baby. It will give a much more cheerful tone to the atmosphere. If we would just realize we live but one day at a time, and enjoy each day as it comes, we would be much happier. Do not put off happiness until a certain ideal is reached. We will sooner gain the ideal by being happy and joyous each and every day.—Ada M. Ferguson.

Mildew stains are sometimes a source of great trouble, and are difficult to remove unless you know just the right way. Rub a little soap over the mildew spots, and on top of this a little chalk and lemon juice. If the garment is then put out in the sun for a couple of hours and afterwards washed in the usual way, the spots will disappear.



FREE To every Boy and Girl. We give a fine camera and complete outfit, plates, chemicals, etc., with full instructions. Just send your name and address, we send you 20 large art and religious pictures to sell at 10c each. When sold send \$2.00 and the camera and outfit is yours. We give you beautiful postcards extra for promptness; also a surprise gift extra for promptness. People's Supply Co., Dept. 44, 716 Lucas Ave., St. Louis, Mo.

SHEEP & SWINE FOR MOST MONEY

POINTERS FROM CANADA FOR BEGINNERS WITH SHEEP.

Many men think that, after they have spent a few months in learning the theory of sheep husbandry, they are capable of pursuing practical management with an assurance of easy success. They have possibly learned the symptoms of diseases with their remedies and in detail scientific management, but exigencies always arise for which they are unprepared and which probably, when studying the subject, they did not deem worthy of their consideration. It is strict attention to the little things in sheep raising that so generally leads to a great success. No one should enter extensively into the business without having had a thorough practical experience. Otherwise it is best for him to commence in a smaller fashion. As his flock increases in size so will his experience and he will learn for himself the proper method to apply to every condition that may arise.

Too many beginners display an over-confidence in their prowess and knowledge of the sheep business. This makes them a prey to the salesman who sees no need of correcting mistakes that the beginner may make in the purchase of his breeding stock. Most generally this class of novice wishes to make personal selection of the animals, and, if his ideals respecting type are somewhat astray, as is by no means infrequently the case, he gets in his flock many sheep which he would be better without. Had he been sensibly disposed and confessed his ignorance of many points of breed type, the salesman, unless he were most unscrupulous, would have aided him in choosing animals that would prove valuable to him. Few breeders who have any sort of reputation at all to sustain will take a rank advantage of a man who ingenuously leaves the selection of his purchase with them. In fact, many breeders state that they much prefer a buyer to make a personal choice than sell by description through the mail, since in the latter case they feel compelled, in order to uphold their honesty and trustworthiness, to send a better animal than the price really calls for. With personal selection the seller's liability is limited, since he does not feel himself responsible for what the purchaser does.

Selection of Breed or Type.

Choice of breed is the first difficulty that besets the beginner. The common question with those entering the sheep business is: What is the best breed? To that the only answer that can be given is that all breeds are good when adapted to the conditions under which they will be subjected in the district where the beginner's farm or ranch is located, and meet local market requirements. The selection of breed also depends largely upon the individual taste of the shepherd and the object he has in view in raising them. No person should ever commence raising a breed for which he knows he cannot obtain a ready sale. Perhaps his means and conditions do not warrant him to enter into the production of pure breeds. If he is breeding sheep merely for mutton purposes, high-class grades will suffice, yet even in buying grades he should take care to select only those possessing a good mutton conformation. Many farmers think that, since they own simply grades, "any old sheep" at all will produce good enough results in the flock, and, therefore, the more cheaply they can buy the better. This is false economy, for very frequently they obtain in their flock animals that do not pay for the expense of their keep.

Uniformity of Type.

Unity of type in the flock should be the direct aim of every breeder. This applies to grades as well as pure-breeds, and refers to the selection of a type of sheep, possessing similar mut-

ton and wool characteristics. With pure breeds this feature is especially important. In a flock of sheep where several types obtain, choice of a suitable ram is most difficult. Besides, disparity in this respect detracts from the general appearance of the flock and gives the buyer or casual observer an unfavorable opinion. Every breeder should aspire to produce a distinctive type. He should endeavor to breed a class of sheep possessing characteristics that, wherever the animals are, they will be recognized as his breeding. But to attain this he should never uphold some fancy character in preference to utility features. No features should be given undue prominence beyond another, especially one that is purely ornamental. The establishment of an ultra form of some fashionable characteristic has at times become an obsession with many breeders of pure-bred sheep, and this sin (for it cannot be called anything else) must be avoided. The ultimate destination of most pure-bred rams is at the head of grade flocks, and their utility features should only be taken into consideration.

The beginner should study well and become familiar with the type or breed he has selected. He must be able to recognize undesirable features and disqualifications. These he should endeavor to preclude from his flock, and to this end he should practice a rigorous culling every year. Individuals which do not possess the merits that his ideal calls for should be banished from the flock. Sheep having grave defects of character or type should not be used for breeding purposes. The absolutely perfect sheep, however, is still unknown, but every breeder should essay to approach as well as possible to what he considers perfection of type. Therefore, he should practice judicious care in the initial selection of his foundation stock and in his subsequent breeding operations. —T. Reg. Arkell, Department of Agriculture, Ottawa, Canada.

THE HOG SUPPLY.

The number of stock hogs in the country on September 1 was estimated by the department of agriculture at 100.3 per cent of the number in the country a year ago. Last year's supply was short, so this year's number may be regarded as below the normal. The downward tendency of numbers seems to have been checked, however. States that show a decline as compared to last year are Minnesota, Iowa, South Dakota, Nebraska and Kansas. Nearly all of the other states have the same or more than a year ago. The health of hogs this year averages somewhat better than last year.

SUITABLE RATIONS FOR FALL PIG FEEDING.

Do you want your fall pigs to be the biggest boned and growthiest you have ever had? As every breeder knows the cheapest gains on pigs are made while they are nursing. Therefore proper attention to bone building and a good ration for the sow while she is suckling pigs is of primary importance. Perhaps the following rations will give you a little help. Any one of them makes an excellent slop for the sow and pigs.

1. Corn one part, skim milk six parts.
2. Corn two parts, shorts three parts. Mix with water.
3. Wheat chop (a product which comprises everything from the wheat grain save the high grade flour) 4-5; hominy hearts 1-5. Mix with water.
4. Corn, oats, middlings in proportions 1:1:2. Add 5 per cent of oil meal. Mix with water.
5. Barley, oats and shorts, equal parts. Mix with three pounds of skim milk per pound grain mixture.
6. Corn, low grade flour, and bran in equal proportions. Bran is used to lighten up the feed, as low grade flour is apt to become pasty. One bushel of this mixture per barrel of skim milk.
7. Corn, oats and oil meal in proportion of 5:2:1. Mix with water.
8. Corn and shorts, equal parts. Mix with three pounds of skim milk per pound grain mixture.
9. Barley and shorts, equal parts.

Mix with three pounds of skim milk per pound grain mixture.

10. Corn, barley and shorts, equal parts. Add 5 per cent oil meal. Mix with water.

11. Middlings, corn and skim milk in proportions 2:1:9.

12. Corn nine parts, tankage one part.

All of the above rations are to be mixed by weight. Those including skim milk as a part of the ration would not be entirely satisfactory if it were omitted, as it is figured in as an essential part of the ration. The others, which are to be mixed with water, would be improved by the addition of skim milk.

Ground feed for hogs always should be thoroughly soaked before feeding, as they swallow it with but little chewing, and it is imperative that it be soluble at the time of eating.

WHEAT FOR HOGS.

As the result of a feeding experiment, the Nebraska station reports, in Bulletin 144, that a great saving can be effected by grinding the wheat for fattening hogs, three pounds of soaked ground wheat producing as much gain as four pounds of soaked whole wheat.

The feeding test extended over a period of 12 weeks, the pigs receiving the whole wheat increasing from 136 to 206 pounds, while those receiving ground wheat increased from 138 to

230 pounds. The addition of one part tankage to 19 parts ground wheat caused the pigs to make faster gains and have a better finish, but the cost of gain was 24 cents per 100 pounds greater than for ground wheat alone.

Mr. Lewis Faulkner of Venedocia, Ohio, reports on his horse as follows: "I have used Absorbine on my road horse. She was lame and there was a swelling on the tendons of the left leg. I bought a can of Absorbine and used it according to directions. She is O.K. now. Absorbine is the best liniment I have ever used." Absorbine, at regular dealers, \$2.00 a bottle or sent direct, all charges paid upon receipt of price. W. F. Young, P. D. F., 58 Temple St., Springfield, Mass.

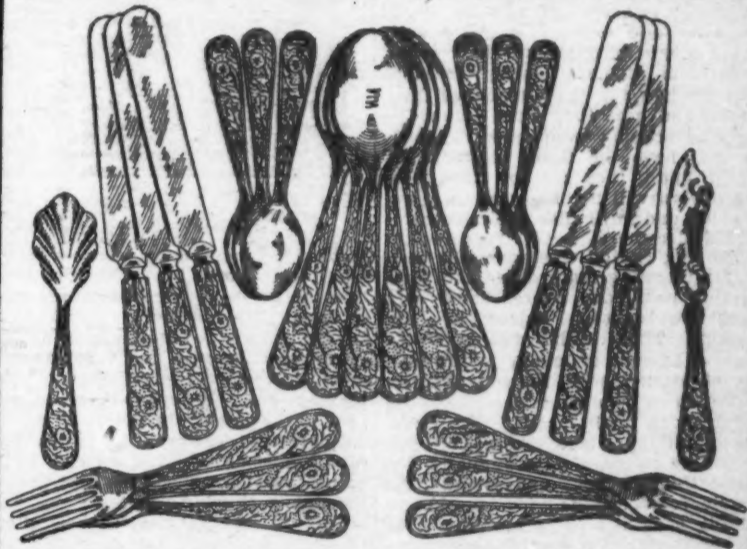
Big-Type Spring Bears & Gifts. Yearling Bears, Fall Pigs and Angus Cattle. J. P. Vlasering, Box 9, Alton, Ill.

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26-Piece Electric Silver Set



We Want You to Have a Set of This Silverware

We have in the past made many fine premium offers of silverware to readers of Colman's Rural World, but this is the first time we have ever been able to offer a complete electric silver set on such a liberal offer. And please don't think because we are giving away this splendid set on such liberal terms that it is the ordinary cheap silverware which is plated on a brass base and consequently changes color and has that "brassy" look just as soon as the plating wears off. This set which we offer you here is silver plated on a white metal base, therefore each and every piece is the same color all the way through and will wear for years. As shown in the above illustration there are 26 pieces in this set—6 Knives, 6 Forks, 6 Teaspoons, 6 Tablespoons, Sugar Shell and Butter Knife. Each piece is full regulation size for family use, the handles are handsomely embossed and decorated with the beautiful Daisy design which is now so popular and the blades of the knives and bowls of the teaspoons and tablespoons are perfectly plain and bright polished.

It is only because we buy this set in large quantities direct from the factory that we are able to secure it at a price that enables us to make the remarkable offer below. It is by far the greatest value we have ever offered. We will send this beautiful 26-Piece Electric Silver Set exactly as illustrated and described to any address upon the terms of the following special offer.

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Send us a one year's new or renewal subscription to Colman's Rural World and to Farm and Home at our special price of \$1.00, and 25 cents extra to help pay postage and packing charges on the 26-piece Electric Silver Set—total \$1.25, and the complete 26-Piece Silver Set will be sent you by return mail—all charges paid. If you cannot get a new subscription to these two great papers, just send us \$1.25, and we will add a one year's subscription to your own subscription to Colman's Rural World, and in addition send you Farm and Home for one year. This offer may not appear again. Remember, for \$1.25 you get Colman's Rural World one year and Farm and Home one year, and in addition we send you the 26-Piece Electric Silver Set—all charges prepaid. Sign the coupon below today before this offer is withdrawn.

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Name

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POULTRY RAISING FOR FUN & PROFIT

MISSOURI STATE SHOW OF SPECIAL INTEREST TO WOMEN.

A very large proportion of all the farm poultry flocks are cared for by the women, who give of their energy and time to make the flock profitable, but the men usually get the credit for breeding the prize winning birds. This has been due to the fact that most women shrink from the publicity that attends the entering of the birds in their own names.

Conditions are changing, however, and the Missouri State Poultry Association officials are very anxious that every woman breeder of standard fowls enter the birds in their own names at the big poultry show to be held in the Coliseum, St. Louis, November 24 to 29, inclusive. It will give the women greater interest in their flocks and result in much good for the poultry industry of Missouri.

But whether the birds are entered in the name of wife or husband, the women are cordially invited to attend the show and get the benefits of the lectures and demonstrations which will be given daily in the large lecture hall.

The program which is being arranged for the week will be one of the best poultry short courses ever offered anywhere, and will be worth the time and expense if there were not a single bird in the show room. Successful women poultry breeders will tell how they have managed their flocks and how they have conducted their advertising campaigns. A breeder may have the finest birds in the world, but if they are not advertised, the buyers will not know of their existence and will fill their requirements elsewhere.

The egg exhibit this year will be a very interesting feature and the commission men have offered some very attractive special prizes in egg classes. That exhibit will be worth a great amount of money to the sellers of market eggs, for it will show them the advantage of marketing fresh, clean quality eggs. The farmers of Missouri lose several millions of dollars worth of eggs annually, because they do not understand the simple requirements for marketing quality eggs at a large premium over the ordinary run of farm eggs.

Some of the largest special cash prizes ever offered on turkeys and capons will make winnings in those classes very valuable and ought to bring out a large entry.

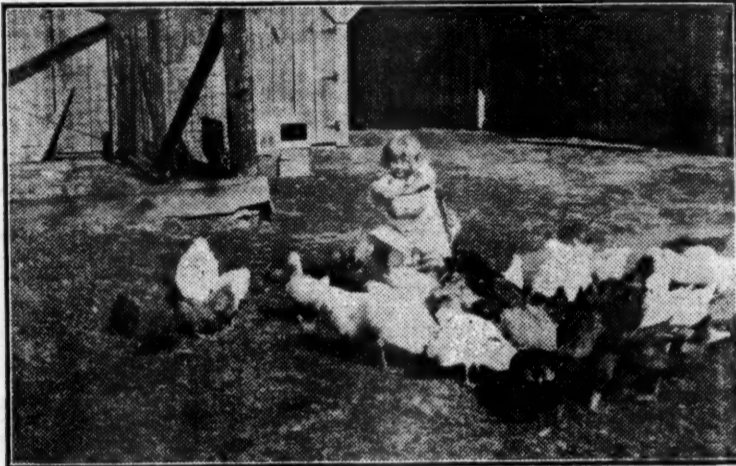
Write to Fred Crosby, secretary, 3251 Gillham Road, Kansas City, or to T. E. Quisenberry, superintendent, Mountain Grove, at once for a premium list and start preparing your best fowls for the show. If you are raising only "common hens," come to the show and learn from the experts how you can increase your profits by breeding only standard bred poultry. Some farmers' wives are making as high as a thousand dollars a year on their poultry as a side line to the general farm work. But they are not making it with scrub poultry.—A. A. Coult, Vice-president, Missouri State Poultry Association.

DRESSING DUCKS AND GEES.

In dressing geese or ducks, I have discovered, the best way is to have a boiler of boiling hot water. After killing dip your birds into the boiler by holding by the head and feet and turning them over in the boiler, then wrap in a sack and let steam for several minutes and the feathers will come off easily. I think this method is better than dry picking. After picking I spread the feathers in a dry place where they can be stirred occasionally and find them as good as if they were dry picked. Try this method and see for yourself.—Mrs. C. Pointner, Kansas.

KILLING AND PREPARING GEES FOR MARKET.

Geese must be shipped dressed to the markets if you wish to realize what they are worth. The very best way to kill is to hang up each bird separately with a weight attached to the bill by a wire hook. Draw a sharp knife diagonally across the roof of the mouth, starting away back in the mouth, thereby severing the main artery, causing a clean bleeding and rapid death. The method may best be described as a stab in the brain, then a twist of the knife to bring it into position for the cut. Geese are very difficult to pick. In scalding their plumage is so dense it is not easy for the scalding water to penetrate. Common practice is to wrap them in an old blanket after scalding and allow them to steam. Some packing establishments use steam successfully and in this way give them a dry scald. By far the best method is dry picking, that is the removal of the feathers without wetting, and this is the method favored by most of the eastern markets and is best adapted when they are to be kept in cold storage. In general practice the bird is plucked while dying, when



Give the Little Tots a Personal Interest in Poultry, Like This, or in a Garden of Their Own and They will Learn Quickly and Be Happy.

it has lost consciousness and is insensible to pain, but when the relation between nervous and muscular systems still continues. Good work in dry picking depends largely on the sticking of the bird, and if this is well done in almost every instance the picking will be finished before the bird is thoroughly relaxed. After the feathers are removed all stubs and pins are removed with a sharp knife and in some instances the bird passes through a shaving process.

Cooling has a most marked effect on the appearance and keeping qualities of the body. The sooner it is cooled after death the better. Once the animal heat is removed and the body chilled decomposition is checked and it will keep longer, taste better and the texture will be improved. Cooling with ice is not so good as gradually tempering the body with water direct from the well and decreasing the temperature. Where cooling plants or rooms are to be had that is the ideal way.

Grading For Market.

It is surprising what can be done in the way of making the bodies look plump and attractive. The common practice is to place the birds in a squatting position in V-shaped troughs, with a weight on the back of each bird. The great essential is to pack the birds in such a position that each carcass will present a symmetrical appearance and show for just what it is. To properly grade or sort is necessary to get the top cent for your product. Grade as firsts, seconds, thirds and culls. The object of grading is to conform with the general scale of prices and demands of the trade.

Two methods of packing are resorted to, dry-packing and wet or ice-packing, and the latter is the one generally used. In dry-packing the birds are shipped in boxes and this method can only be used when the weather is cold and the distance short, and special packing boxes are used so the birds will show to the very best advantage. When ice-packed they are generally shipped in

large barrels. A layer of clean ice is placed in the bottom of the barrel, then a layer of birds, packed in a circle with backs up, then another layer of ice and the birds so arranged that they never touch the sides of the barrel.

Feathers.

The careful marketing of the feathers should bring in sufficient revenue to pay for the killing, dressing and marketing of the birds. Some years ago there was practically no demand for the heavy feathers except for the quills, but today great quantities are used for the adornment of women's hats and feather ornaments of various kinds. Scalding reduces the value of the feathers to such an extent that it scarcely pays for the drying, and here again we have still further evidence in favor of dry picking. The feathers must be kept free from dirt and blood and at the end of each day's picking they should be spread out about six inches deep on a clean floor to dry. Goose feathers bring the highest price on the market for the supply is limited. It is well to secure a regular firm to handle the feathers to get the best price for them. Some firms will purchase the feathers with the birds, but it is far better to ascertain from a

regular firm what quality and method they favor so you can cater to them.—Chas. T. Cornman.

WATCH THE THIN FOWLS.

If your fowls are thin without cause and you lose too great a proportion each year, it is well to kill and examine a few of the poorest specimens, looking especially for signs of tapeworms or tuberculosis. Tapeworms, if present, will be found in the intestines. Tuberculosis is indicated by the presence of small, cheesy nodules on the liver, spleen, intestines or on the membranes of the abdominal cavity. In a bad case the nodules are likely to be found on all the organs.

BEE KEEPING

WHAT BEE-KEEPING WILL DO FOR MEN AND WOMEN.

To the novice in bee-keeping the industry looms up as one big black mystery, which spells loss of time and money for the average man. Such an idea is really nothing short of absurd, as bee-keeping, besides being one of the most profitable of occupations, is also one of the simplest. Men, women, and even children, are everywhere indulging in it, and without experience or capital, are quietly reaping rich harvests of honey, which mean profits in dollars and cents.

In order to show the ease with which one may engage in bee-keeping, it might be well to cite the following cases. Mrs. Alva McNeil after her husband's sudden death, found herself almost penniless, her only home a rented farm in Illinois. By the laws of fate and the mandates of custom she should have become discouraged, but she didn't. Instead she held an auction sale, sold all her personal possessions, from which she realized a scant four hundred dollars, and renewed her

lease on the farm. Then she sublet all but the house and 10 acres to a neighbor, and set herself to the systematic culture of the honeybee. She knew but little of the insects, her main knowledge being a few scattering ideas gathered here and there, but she had confidence in herself and supreme faith in the profits of the venture. She bought 25 stands of bees from a nearby bee-keeper for the sum of \$125. Supplies and incidentals cost her \$50 more, and with these she got some free advice on bee-keeping. That was her start, not her finish. Today, 11 years after her auction sale, she doesn't keep bees; she doesn't have to. She now owns clear the old farm and some land adjoining, owns also a house in town, and lives comfortably, and all due to the little honey bee. True, she worked hard at first, took all advice offered, kept her expenses down, and finally learned the business. Then and only then did she increase her apiary, and when she did increase it, success increased along with it.

Another potent example, teaching the same moral, and resulting the same in success, is the case of Roger Bent. This young man was confronted with the problem of working his way through college and after some deliberation, decided to investigate apiculture. He served out an apprenticeship under a reliable bee-man, and then started out for himself on his father's farm near Delta, Colorado, a region already noted for the high development of its bee industry. Young Bent started slowly, swallowed his disappointments, and gradually caught the knack of the trade. Meanwhile his bees increased from 12 stands to 450 stands, and for the last three years his income has averaged \$600 per season. Although a really successful bee-keeper, Bent has not suffered in his college work. Bee-keeping has not only made his college career possible, but it has furnished him with a means of livelihood, which will prove valuable in after years, if college ideals and hopes fail to materialize.

The third example is of a more pathetic nature, although it has ended as the rest. Mary Corby was a school teacher who found to her dismay one day that her eyesight was rapidly failing. She consulted the nearest oculist and he told her plainly that if she continued teaching she would be blind in less than a year. The doctor advised the farm in general and complete rest, while one of the school directors advised bees in particular—and a complete rest. So Mary took up bees—on a rented farm—near a large Kansas city. At first she sold her honey to private parties, but as her resources increased she limited her trade to wholesale exclusively, and although she is still on the farm she now owns it and has a nice bank account to boot.

What Mrs. McNeil, Roger Bent and Mary Corby have done, others can do. An amateur can easily and safely begin with the advice acquired from good text-books, and if he goes slowly he is sure of success. Rules, laws, and tricks of the trade can be learned only from experience, and as the old proverb says, "nothing ventured, nothing gained," so it is with bee-keeping—a start must be made in order to gain the profits.—R. Humphreys, Colorado.

As the weather turns cool and changeable, look out for the poultry to contract roup. Proper housing, ventilation, etc., will guard against this aggravating and damaging disease.

Take a look in the poultry yard and if there are some old hens to dispose of, it is a good plan to sell them early, before the rush to market begins; and as soon as the cockerels are large enough, better sell them, too.

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IN THE ORCHARD AND THE GARDEN

PEACH PICKERS' COLOR TEST.

In one of the busiest fruit picking districts in Michigan, no peach picker who offers his or her services is accepted unless a rigid examination for color blindness is passed. No railroad hand, who must unerringly pick out the different lights in the terminals, is supposed to have better eyesight than the men and women who pluck peaches from trees.

The reason is that the picker must depend on the color of the fruit to tell him whether or not it is ready to be plucked. The growers, who get the best prices allow no peach that has been touched by human fingers to remain on the tree, and if it is taken off and found to be off color it is discarded in the packing.

Pickers with sharp eyesight soon become accustomed to the task that is required of them. In a single glance it is determined whether to take or leave a peach, and the workers quickest at the job, that is made easy by the help of the eye, may have work the whole season through.—J. L. Graff, Illinois.



No Farm Home Should Be Without a Tennis Court for the Young Folks and the Ladies. Now is the Time to Prepare and Grade the Ground for Seeding Next Spring.

FLORICULTURE

FALL PLANTING OF BULBS

The best time to plant bulbs is in early fall, but they can be planted as late as November. For outdoor culture buy "first" grade bulbs of the following varieties:

Tulips—Keiserkroon, tall red and yellow; Chrysolora, yellow, dwarf; Rembrandt, dark red, dwarf. High-grade bulbs are never sold in mixtures. Plant the Keiserkroon variety nine inches deep; the other seven inches deep.

Hyacinths—Electra, blue, large; Charles Dickens, single, pink, fine; La Grandesse, single white. Double varieties are inferior to single varieties. Plant hyacinths nine inches deep.

Narcissus—Emperor, Paper White and Poeticus. Plant out of doors deep in rich, sandy loam soil. Drain well. After blooming allow the foliage to die away. Do not cut it.

For indoor culture bulbs rank supreme. The secret of success, here lies in securing heavy root growth before the leaves are allowed to appear. To obtain this root growth, place bulbs in pots or pans five inches deep in a rich, sandy loam soil well drained. Set away in a dark, cold place for several weeks. Water occasionally. Frequently these pots, pans, flats, etc., are "plunged" out of doors, covered

with several inches of soil and left until after the ground freezes slightly. Then "lift," bring into the warmth and sunshine, water thoroughly as needed, but do not drown. Success is then assured. When buying, secure firm, clean, large bulbs, free from fungus disease. Better buy from dealers who import direct from Europe and who guarantee the quality of their stock.

For forcing, plant bulbs in October and successively for Christmas and Easter bloom. Most bulbs force to bloom in about eight weeks after being brought into the sunlight. The best varieties for indoor culture are Moreno and Roman Hyacinths, Freesia, Refracta Alba, Van Thol tulips, Double Roman and Paper White Narcissi.

Chinese lilies and Roman hyacinths may be grown in water in a bovril bottle, or surrounded by stones in a deep glass bowl of water. Remember—plant deep; rich soil; perfect drainage; plenty of good roots before forcing, means good flowers. Not all varieties force well, the ones noted above will.—H. F. Major, Missouri.

VEGETABLES

ONION SMUT.

Onion smut is a disease which is each year becoming more prevalent. The fact that the fungus causing the disease when introduced into the soil

persists for a number of years, makes its control a matter of increasing importance. The experiments conducted at Racine last summer by Professor Jones and Mr. Vaughn in Indiana indicate that the application of formalin solution to the seed in the drill row, giving local disinfection, seems to be the simplest and most effective way of controlling this disease. On untreated control plots yielding 280 bushels per acre, 25 per cent of smut was found. By the formalin treatment in the drill row, the amount of smut was reduced to 2.6 per cent, while the yield was increased to 520 bushels per acre.

HOW TO OVERCOME CABBAGE YELLOWS.

A strain of cabbage which thrives in fields infested with "yellow," a disastrous cabbage disease, has been developed in the Racine and Kenosha cabbage growing district.

For the past three years L. R. Jones of the College of Agriculture of the University of Wisconsin has been co-operating with the growers of that noted truck growing section in an effort to control this disease. The ailment has become so prevalent in parts of that county as to make cabbage growing, heretofore a mainstay of these farmers, almost an unprofitable undertaking.

By breeding up a strain, which, when planted on diseased land produces a splendid crop of healthy marketable cabbage an important industry has been saved to this district. Seed from the strain developed by

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Blackbrier—Highgrade
Cantine—Semi-Highgrade

From our Illinois mines—Now used by many branches of the Farmers' Equity Union in the different States.

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ONE PAIR FREE Genuine Nottingham LACE CURTAINS

Full Width and
7 1-2 Feet Long

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We will send you one pair of these splendid Genuine Nottingham Lace Curtains by parcel post prepaid, if you will send us \$1.00 for a new or renewal subscription to Colman's Rural World, and Farm and Home. The regular price of Colman's Rural World is \$1.00 a year, and Farm and Home is 50 cents a year—total \$1.50, but our special price for both papers is \$1.00. You get two splendid farm papers for the price of one by accepting this most liberal offer, and in addition we will also send you one pair of these Genuine Nottingham Lace Curtains. Have you ever heard of such an unusual offer. We don't think you have. All we ask you to do is send us \$1.00 for a year's subscription to the two big papers—and 25 cents extra to help pay packing, mailing and postage charges on the pair of Lace Curtains—total to send is \$1.25. Just write a letter and say, "I enclose \$1.25 for one year's subscription to Colman's Rural World, and Farm and Home, and one pair of Genuine Nottingham Lace Curtains."

Address COLMAN'S RURAL WORLD, St. Louis, Mo.

Mr. Jones has this year produced excellent crops on fields where from the ordinary seed little or no marketable cabbage can be harvested.

At a meeting of growers recently held near Berryville in Racine county, plans were formulated for the organization of a Southeastern Wisconsin Truck Growers' association. One of the purposes of this organization will be the production and distribution of seed from plants in which this disease resistance has been developed. A committee consisting of W. J. Hansche of Berryville, Mat Broesch of Kenosha and Wm. Thompson of Somers will direct the organization of this association.

Celery may be lifted, the outer leaves taken off, and the plants set in soil or sand in a cool cellar. The plants will continue to grow and form white, tender stalks for winter use. When watering, do not wet the foliage, as this will cause decay.

Where the growth shows luxuriant foliage, with small yield of fruit, either change the location of this variety another year, or add the lacking element to the soil. Not always in it the soil at fault, adjacent buildings, fences or trees often cause a lack of fruit and vegetable yield. Likewise those that show large yield of fruit with scant leafage, need another soil element or a change in location.



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FORCING RHUBARB.

Experiments in forcing rhubarb for early cropping under greenhouse conditions have been carried on in the northern states for several seasons. So far the best results have been obtained on two year old roots. Commonly the roots are frozen before being forced. The use of anaesthetics, such as ether, has been found to stimulate growth in frozen roots, but attempts to substitute the use of anaesthetics for freezing have been unsuccessful. As this crop can be grown under the forcing benches, where it does not consume space that is of as a greenhouse crop.

Pull the tomato vines that have been nipped by the frost, and place them somewhere in the shade. The fruit then will ripen, instead of rotting, as it would if left out in the weather.

FRUIT GROWING

WINTER PROTECTION OF SMALL FRUITS.

Winter mulching of small fruits will go a long way toward increasing the yields next year and may even prevent a total failure of the crop. By applying a fall mulch to the plants they are protected from the drying effects of the winter weather thus bringing the plants through in a much more vigorous condition and possibly saving them from destruction should the winter happen to be unusually severe.

Almost any kind of old straw or strawy, stable manure may be utilized for the purpose, but fodder is somewhat coarse. This is applied to the strawberry bed to a depth of three or four inches and may be put on by hand or with a manure spreader. The hand method works well on small areas but where a large acreage is to be mulched the manure spreader will economize in both time and labor and its use is advisable wherever available.

For brush fruits, such as blackberries and raspberries, the bushes must first be laid over. This is done by removing the earth from along one side of the row, bending the stalks down flat into the depression thus made and covering with the earth which has previously been removed. Straw may then be applied over this as was done with the strawberry bed and the plants are safe from the winter winds.

Danger from late frosts is also lessened by the use of a mulch, as it may be left on long enough to retard the blooming in the spring. The entire mulch may then be removed from the ground, but some growers prefer to leave a portion of it to act as a summer mulch to conserve moisture, prevent weed growth and keep the berries from becoming gritty by contact with the soil.—J. R. C., Indiana.

APPLES SELF-STERILE.

The investigation of the state experiment station at Pullman, Washington, have thrown much light upon the question of apple pollination. For many years investigators have been undecided as to whether or not apples are self-fertile or require cross-fertilization. The work of the Washington station will give valuable information.

The experiments were conducted in the Spokane valley, where conditions are not materially different from other sections of the country where apples are grown. It will be seen that few, if any, varieties of apples can be depended upon to fertilize their own blossoms. The conclusions of the station are as follows:

The experiment station at Pullman has been engaged for several seasons in a study of orchard pollination to determine which varieties of apples are self-sterile and need to be planted near other varieties in order to be fruitful and which, if any, can successfully pollinate their own blossoms. Tests have also been made with a number of the more important varieties to show what combinations give the best results in cross-pollination. Most of these studies have been carried on at Pullman, but this spring considerable work was done in several orchards at Opportunity, Washington, and the results may be of interest.

Nineteen varieties were tested for self-sterility. Rome Beauty and Baldwin were the only varieties tested which gave any promise of being able to produce a crop without cross-pollination and these set much less fruit than when crossed. Ben Davis, Wealthy and Yellow Newton were slightly self-fertile. King David, Delicious, Jonathan, Wagener, Winter Banana, Maiden Blush, Twenty Ounce, Lawyer, Northern Spy, Tompkins King, Spitzenburg, Yellow Transparent, Rhode Island Greening and Winesap failed to produce any fruit from self-pollinated blossoms.

Rome Beauty, McIntosh, Delicious, Spitzenburg, Ben Davis and Wagener all gave good results as pollenizers of Jonathan, Winter Banana and Yellow Newton were also crossed successfully

with Jonathan, but gave fewer fruits than the other varieties. Jonathan, Delicious and Ben Davis crossed most readily with Wagener and Rome also gave some fruit. Wagener, Delicious, Jonathan and Winter Banana gave the best results with Spitzenburg, while Yellow Newton and Ben Davis gave quite good results and Rome, McIntosh and Beauty was most successfully tish and Winesap were found to cross-pollinate the Spitzenburg successfully, pollenized by the Wagener, though this is not a very desirable combination in orchard practice, as the Wagener is an early bloomer, and the Rome blossoms rather late. Jonathan, Delicious, Ben Davis and Spitzenburg all gave very good results as pollenizers for the Rome.

In most cases it has been found that varieties which blossom at the same time will cross-pollinate successfully and as a rule, set more fruit than the same varieties when self-pollinated. Winesap and Stayman Winesap, however, have failed to give good results as pollenizers on any of the varieties tested. The experiment station has a bulletin in preparation giving the results in detail of this and other pollination tests.

UTILIZING THE WASTE.

Near the packing house of a California fruit canners' association 400 tons of peach pits were allowed to pile up. To the uninitiated these pits would be considered as so much waste to be disposed of in some way, just to get them out of the way. But not so, the pits were cracked open, the meats removed and shipped away for the manufacture of prussic acid and for sale as bitter almonds, and the shells were sold as fuel. Thus does this waste become a source of great profit. There is a lesson in this for the farmer. The same principle of utilizing the waste can be applied to the farm. Some of the most prosperous business enterprises in this country have been built up largely through the strict utilization of the by-products that were formerly wasted. On the farm there is the manure pile that is allowed to lie out in the weather and leach away, the straw stack that is often considered to be in the way, the old rails that are piled up and allowed to rot, the cull fruit and vegetables that go to waste, the corn fod-

der that stands in the field all winter and decays, and the many other sources of waste that might be turned to good advantage. Stop these leaks, they are helping the profit to get away.

POWER BEHIND THE THRONE IN A FARM HOME.

It began with the old wood lot, which the men folk said must be cleared at once, as firewood was bringing six dollars a cord tier and might never reach that point again. Unfortunately, all the other farmers in the district had a like inspiration, so that it was impossible to hire extra men. What was to be done? asks a writer in Farm, Stock and Home, and answers it with the following story:

The elder son of the household was taking an academic course in scientific agriculture and, as it had become the family fashion jestingly to consult him, they asked how he would make one pair of hands do the work of eight.

"Easily," he made answer. "I'd buy an engine."

There followed learned talks on the relative value of engines, from which they emerged an hour later with a few points clearly decided. Among those were: The engine must be one which could be run on kerosene, gasoline, petrol, distillate or alcohol, without change of equipment; it must be a skidded portable; it must be of sufficient horse-power to run any necessary piece of machinery, but with speed so perfectly under control that it could be geared for domestic appliances of the heavier sort.

The men soon found that son's agricultural course contained more practical knowledge of engines than their experience. The boy insisted that the engine should be light in weight, simple in construction, with few parts, easy to handle, easy to start, without cranking, even in forty-below-zero weather; run in either direction, have parts so arranged that excessive vibration would be eliminated, be economical of fuel, have ball-bearing governor, be under such constant control that it could be stopped instantly, and have steel-chain transmitter, with no belts to slip.

When a satisfactory machine had been selected from the many on the

market, son explained that while economy in the use of fuel was desirable, parsimony was self-robbery, because the proportion of perfect combustion was less when the fuel was low—just as one large lamp gives more light than four lamps with wicks one-fourth its size.

After using the engine satisfactorily as a wood-sawer, it was connected with the hay-baler, where it "made good" in a way which brought joy to the heart of the men folk. Before that task was completed, the stump-puller had arrived so the engine was put to work again.

Experiments were frequent and because of the adjustable speed it was found possible to harness it to the corn sheller, feed mill, pump, separator, churn, mangle, washing machine and wringer, in all of which motive capacity the engine proved an ever-present help.

Long before this complete installation, however, a regular machine room was fitted up in the basement and the family had begun to dream of an electric light plant. In preparation for this, a concrete floor was laid in part of the basement. In its center there was a depression, just the size of the foundation of the engine, with a concrete wall on three sides and a slight incline on the fourth; and during the winter, when the engine was not in use in the fields, it was taken from the skids and slipped into the depression. This not only made it more steady than any portable engine can be, but it was less work to adjust it to the various pieces of machinery, which also occupied fixed positions, as the distance between the engine and any given machine was constant and the one running the engine knew the exact link in which to clamp the chain.

As the farm next their's was thoroughly electrified, son's mother "hankered" for a fourteen-light tungsten electric plant, which, investigation showed, could be installed for another three hundred dollars—and each tungsten is equal to two-and-a-half incandescent lights, so this number was sufficient, and it allowed one bright light each for barn, poultry house, bath, bed room, kitchen and porch, and two each for dining and living rooms.

Eventually a dynamo was housed in the concreted machinery room of the basement and run by the engine which had so many previous duties. As son had insisted upon a 3½ horse-power engine, the battery could be recharged while the engine was used for running light machinery. If the engine had been less than two horse-power, it would have been necessary to run it five or six hours a week to keep the battery charged.

PLANTING PEACH SEED.

Peach seed can be planted in the fall and will grow in the spring. Formerly the nurserymen bedded the seed over winter in sand to sprout, but now they plant them in the nursery rows with a drill made for the purpose. But if you want to get the same peach that you now have a tree of you will seldom get the same peach from seed, for the seed will vary a great deal. You may get a good peach from the seed, but the chances are that you will get a poorer one than the one from which the seed came. The only way to get the same peach is to plant seed in a nursery row and next summer bud the seedlings near the ground with buds from the tree you want to reproduce. Then the next spring when the buds start to grow cut off the old top and trim up the bud for the new tree and you can set these in the orchard that will have your peach tree.

The fruit growers who produce the finest and highest priced apples instruct their pickers to handle the apples just as if they were eggs. Leave the stem on. Removing it from the apple unseals the package and hastens decay.

In the springtime every person delights in seeing the bloom of bulbs. Hyacinths, tulips, narcissi, crocuses and snowdrops for spring flowering in the garden or on the lawn must be planted in fall. Do it now.

A Personal Word

Editors and other newspaper men are not easily offended. To say nothing of their own personalities, the very nature of their work draws them away from petty bickerings and little things and makes them see and view all situations in the most broad-minded sense—that is, with the countless eyes of a multitude of readers focused sharply to the viewpoint of one. But the editor's peace of mind is often disturbed by the thought that he may offend some one else. With such a multitude of intimate friends,—his readers and writers,—he cannot expect always to please each of them. And that has been the experience of the new editor of Colman's Rural World, even in the short time of one month that he has joined the Rural World family. From various letters received in the past ten days, he discovers that the little announcement on page three two weeks ago regarding "Religion, Politics and the War," did not appeal to some of his correspondents. The editor regrets that this is the case, but he cannot retract from the policy of this paper, which is absolute neutrality on those three questions. Not all of his good friends, however, have been offended. Many have shown their approval and the editor hopes that everyone will accept the policy of the Rural World with the grace of the writer of the following:

Editor Rural World:—Your letter received; also the two Mss. returned. I always expect an editor to throw away what he cannot find space for. No one can offend me by refusing to publish any poem or article. If you used all that was sent to you by various writers, you would have to get up a 100-page magazine instead of a 16-page one. The business of an editor is to know what to use and when to use it, and no one will get vexed, except people with narrow minds.

Small minds are hurt by little things;
Great minds are hurt by nothing.
'Tis the little soul, that feels the stings
And quick are they to mouthing.
The broad mind which to wisdom clings
Is far more slow in judging,
And to mankind more joy it brings
And never is begrudging.

ALBERT E. VASSAR, St. Louis.

That's the way the editor hopes that all of his friends will accept the situation. Colman's Rural World is published in the interest of all its readers and not for any one individual. So please cut out effusions on religion, politics and the war.

A. B. CUTTING, Editor